UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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TERESITA SANTIAGO, RAMON LORENZO and TERESITA SANTIAGO, as the Mother and Natural Guardian of KAREN SANTIAGO DIAZ and HENRY LORENZO infants,
Plaintiffs,
06CIV7108 (GBD)(DF)
-against-
GREYHOUND LINES, INC., and THE GOODYEAR RUBBER and TIRE COMPANY,
Defendants.
----------x
GREYHOUND LINES, INC.,
Third-Party Plaintiff,
-against-
MOTOR COACH INDUSTRIES, INC.,
Third-Party Defendant.
----------x
GREYHOUND LINES, INC.
Third-Party Plaintiff,
-against-
UGL UNICCO, Formerly Known As UNICCO Service Company
Second Third-Party Defendant.
----------x

September 14, 2010
9:46 a.m.

Deposition of JOHN WILLIAM DAWS, Ph.D., PE.

September 14, 2010

9:46 a.m.

Deposition of JOHN WILLIAM DAWS, Ph.D., PE, taken by Defendant Goodyear Rubber and Tire Company, pursuant to Notice, at the offices of Fabiani Cohen & Hall, LLP, 570 Lexington Avenue, New York, New York 10022, before Anneliese R. Tursi, a Registered Professional Reporter and Notary Public within and for the State of New York.

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THE VIDEOGRAPHER: We are now going on record at approximately 9:46 a.m. This is tape No. 1 in the videotaped deposition of witness John Daws, taken in the US District Court, the Southern District of New York. The case number is 06CIV13371 in Teresita Santiago, et.al, versus Greyhound Lines, Inc. and the Goodyear Rubber and Tire Company. The deposition is being held today, September 14th, 2010 at the offices of Fabiani Cohen & Hall at 570 Lexington Avenue in New York City.

I'm Kevin Gallagher, the videographer. The court reporter is Liese Tursi. We are both from the independent firm of Esquire Reporting Services.

Counsel will now identify themselves for the record.

MR. KAPLAN Alan Kaplan for Goodyear Tire and Rubber company.

MR. DACUS: John Dacus for Motor Coach Industries.

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MR. KUSHLEFSKY: Noah Kushlefsky for the consolidated plaintiffs.

MS. BOYLE: June Boyle for UNICCO Service Company doing business as UGL UNICCO.

MR. POLLAK: Kevin Pollack on behalf of Greyhound.

THE VIDEOGRAPHER: Ms. Tursi will now swear in the witness.

J O H N W I L L I A M D A W S,

4535 West Marcus Drive, Phoenix, Arizona 85083 having been first duly sworn by the Notary Public (Anneliese R. Tursi), was examined and testified as follows:

MR. POLLAK: Just before we start I just want to indicate on the record that the witness reserves his right to read and sign this transcript.

MR. KAPLAN: All right.

EXAMINATION BY MR. KAPLAN:

Q. Sir, can you please state your name and address for the record.

A. My name is John William Daws. My address is 4535 West Marcus Drive in Phoenix,

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Arizona.

Q. And what's your current occupation?

A. I'm a consultant.

Q. And who are you a consultant for?

A. Many different companies, individuals.

Q. Do you work for a particular company?

A. I work for Daws Engineering LLC.

Q. And how many people are employed by Daws Engineering?

A. Just myself and my wife.

Q. And what type of company is this: is it a partnership, a corporation? Please tell me.

A. It's an LLC.

Q. How long have you worked at Daws Engineering?

A. Since the beginning of 2006.

Q. And is the work that you perform at Daws Engineering exclusively as a consultant?

A. Probably 90 percent of my time

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goes into consultant activities.

Q. What percentage of that is geared towards litigation?

A. All of it.

Q. And what percent of the time that you put into your consulting activities is devoted to litigation?

A. Litigation support is the primary -- you know, is the, you know, 98 percent or so of my consulting work is litigation support. I do an occasional job for tire sellers or something like that where I review service materials, things like that. But for the most part my consulting practice is litigation support.

A. And what percentage of your income is derived from litigation-related activities?

A. Pretty much all of it.

Q. Prior to Daws Engineering, you worked at Exponent, is that correct?

A. That's correct.

Q. And approximately how many years were you at Exponent?

A. Four.

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Q. And your duties there were basically the same, working as a consultant on litigated matters?

MR. POLLAK: Objection to the form of the question. You can answer.

A. I did consulting work. I was also the vehicle practice director for about a year-and-a-half. So I had administrative responsibilities and so on.

Q. And prior to that, you've worked at the Michelin Tire Company, correct?

A. For almost 20 years, yes.

Q. And you left there in 2001?

A. Right at the end. Right after Thanksgiving, 2001.

Q. Now, in those years you were at Michigan, how many years were spent in a job title where you designed tires?

MR. POLLAK: You said Michigan. I guess you meant Michelin.

Q. Michelin. I meant Michelin. If I say Michigan, please take it as Michelin.

MR. POLLAK: Please repeat the question for the witness.

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She will repeat the question for you.

(Record read.)

A. While I was at Michelin, I had a job where my title was job design engineer for two years.

Q. Now, while you were at Michelin, did you ever design a radial medial truck tire such as the G-409 involved in this case?

A. I did not personally design such a tire, no.

Q. At Michelin you designed low rolling resistance tires for electric vehicles. Is that correct?

MR. POLLAK: Objection to form. You can answer.

A. As a design engineer, that was my job, yes.

Q. And was the Proxima, P-R-O-X-I-M-A, one of those tires?

A. It was.

Q. Was that a radial tire?

A. Yes, it was.

Q. Was that the only tire that you

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were involved with that was ever put into production?

MR. POLLAK: Objection to the form. You can answer.

A. Yes.

Q. Approximately how many of the Proxima tires were produced?

A. About 15,000.

Q. Now, you said it was a radial tire. Correct?

A. Yes, sir.

Q. Was it a steel-belted radial tire?

A. Yes, sir.

Q. And what type of service was it designed for?

A. Electric vehicle.

Q. Used in what capacity: a golf cart, on-the-road vehicle? That's what I'm trying to figure out.

A. General Motors EV1, the Impact.

Q. How many steel belts did the Proxima tire have?

A. Two.

Q. Now, if I refer to a steel belt

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package, is it understood that I'm referring to the number of belts that make up the tire itself?

A. Yes, sir.

Q. Did you ever design component parts for the tires that you were involved with?

A. I'm not sure I understand your question.

Q. Well, did you ever design the tread area for a tire?

A. Are you talking about the tread sculpture?

Q. Rough composition, tread pattern, anything.

A. Well, I had to design the shape of the tire which encompassed the crown radius and so on. The sculpture was designed by someone else.

Q. How about any steel belt packages, did you ever design any steel-belted packages for any tires?

MR. POLLAK: Note my objection to the form. You can answer.

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A. The steel belt package had to be designed; that is, the width of the belts, the skim thicknesses, the spacing, the pace of the belts and so on.

Q. Did you do that design work for the Proxima?

A. Yes.

Q. Did you design any of the wire configurations that went into the steel belts of that tire?

A. No, I did not.

Q. Where did those design parameters come from?

A. They were standard Michelin building blocks.

Q. Would it be fair to say that often a tire designer puts together components that have been already used by the company in other products?

A. Yes.

Q. So in essence when you were designing the Proxima, you were putting in certain components that had already been used in prior Michelin tires. Is that correct?

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A. That's correct.

Q. Now, while you were at Michelin, did you have opportunities to forensically examine tires?

A. Many times.

Q. Now, part of that was while you were at the Spartansburg location, is that correct?

A. The Spartansburg plant is Michelin's plant in the United States, or one of the plants in North America that makes medium radial truck tires. I was the engineering manager for that plant for a while and in that role I did forensic examination of medium radial truck tires and their impact, or the impact of process equipment on roads.

Q. Now, did the forensic examination that you performed while at Spartansburg, include you determining whether or not anything had gone wrong in the manufacturing process related to those tires?

A. That was my primary role.

Q. In other words, your job wasn't to get a tire, examine it and say there is

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something wrong with the design of this tire. Is that correct?

A. Well, understand that I worked with the tire designers in reviewing those tires, so, you know, whether a certain problem in the tire was related to its manufacturing or its design, was something we would develop pretty much together. It wasn't -- it wasn't looking at the manufacturing aspects of the tire in a vacuum, nor was it looking at the design aspects of the tire in a vacuum.

Q. But your function was not to identify a design problem with one of those tires, was it?

A. Well, again, I was representing manufacturing in those reviews. I was not -- that doesn't mean I didn't comment on design issues. It just means that I was representing, I was the representative of manufacturing for the plant.

Q. And your role was to look at what the manufacturing process had been related to that particular tire, a particular tire, and then try to determine what, if anything, went

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wrong in the manufacturing process. Is that correct?

MR. POLLAK: Objection: asked and answered. You can answer.

A. That was my primary role, yes.

Q. Now, you also worked at quality assurance while at Michelin?

A. Yes, I did.

Q. How many years did you do that?

A. Four years.

Q. Was that for radial medium truck tires?

A. That was for all types of tires, everything from earth mover to passenger car.

Q. What was the percentage of tires that you looked at while working in quality assurance that were passenger tires?

A. Probably 75 to 80 percent of those tires were passenger car tires.

Q. How about light truck tires?

A. Passenger and light truck together. I tend to lump those into the same bucket.

Q. And would the remaining amount be

for radial medium truck tires?
A. For the most part. There was the occasional earth mover tire, occasional aircraft tire, but for the most part medium radial truck tires.
Q. Now, were you involved with the radial medium truck tire group at all while you were at Michelin?
A. Was I involved with?
Q. Well, did you have a position in the radial medium truck tire group?
A. I never had a position in the radial medium truck tire group.
Q. Was there a period of time where you were involved in the vulcanization of radial medium truck tires?
A. Yes, sir.
Q. And were you also involved with issues regarding the retreading process of radial medium truck tires?
A. Yes, I was.
Q. Are you familiar with the retreading process for radial medium truck tires?

A. I'm familiar with several retreading processes for such tires, yes.
Q. Have the processes changed much from when you worked at Michelin, until the present time?
A. I wouldn't think so, but there is always a possibility there is some new process out there.
Q. At the time that you worked at Michelin, how many different models of radial medium truck tires did they have?
A. It's been a long time ago. I couldn't tell you.
Q. More than five?
A. Oh, yes.
Q. More than --
A. Again, I don't know.
Q. Well, more than 20?
A. I don't know.
Q. So definitely more than five?
A. Definitely more than five.
Q. How about more than ten?
A. I don't -- again, I don't know.
Q. Were all of those radial medium

truck tires designed to be retreadable?
A. I wouldn't necessarily know the answer to that question.
Q. Do you remember how many were?
A. No.
Q. Was it at least one?
A. There were many that were designed to be retreadable, certainly. I just don't know how many.
Q. How many would be more than five?
A. I don't know. The vast majority of over-the-road truck tires are designed to be retreadable.
Q. Now, the RMT tires that were produced at Michelin, were any of those used for commercial bus application?
A. Yes.
Q. Approximately how many?
A. I don't know.
Q. Many?
A. Again, I was not part of the commercial side of the radial truck tire group. I don't know.
Q. Were any of the radial medium

truck tires that were designated for use on commercial bus applications, also designed to be retreadable?
A. I couldn't answer that question. I don't know.
Q. You don't know if even one was?
A. I don't know.
Q. The G-409 tire that's involved in this case, do you know if that is designed to be retreadable?
A. I believe it is, yes.
Q. Now, were the designs of the steel belt packages that were used in the radial medium truck tires at Michelin while you were there, the same?
MR. POLLAK: Objection to the form of the question. And, again, I'm just objecting to the phrase "belt package." That will be a continuous objection throughout this deposition unless it is specifically defined. That's my objection.
A. Can you repeat the question, please.

Q. Well, you and I have already discussed how we are using the term belt package, is that correct?
A. That's right.
Q. And you don't have a problem with --
A. I don't have a problem with the term belt package. I have a problem with the same. I don't know what that means.
Q. Similar.
A. Were they similar to one another?
Q. Correct.
A. Or similar to what everybody else makes?
Q. Let's start with similar to one another.
A. I really don't know how to answer that question. It depends on what level of similarity. You know, they all look generally the same to a non-tire designer, but to a tire designer they are very different.
Q. Could you give me a general description of what the construction was like of the radial medium truck tires that were

being produced at Michelin during the time period that you were there.
A. Well, there were generally categories involving full four-belt package, a four-belt package with a, you know, with half belts either on the bottom or the top of the system. I think there were some small three-belt package tires, things like that.
But for the most part, you know, they were multiple belt packages. The question of how the belts were arranged and how the skim rubber was set in and things like, you know, belt angles and wire types and so on could make them very, very different.
Q. How about the thickness of the belt wires themselves, did they differ from belt package to belt package?
A. Again, it depends on what you are talking about. You know, depending on the function of the tire, what market it was intended for, could have been substantial differences in belt wires.
Q. How about the ends-per-inch count from steel-belt package to steel-belt package,

did they differ as well?
A. Yes.
Q. Now, you mentioned that there were full four-belt packages. Is that how you would describe the G-409 tire that was involved in this case?
A. Yes, sir.
Q. You also said at Michelin they made four-belt packages that included half-belts.
A. Yes.
Q. Can you describe what you mean by that.
A. Well, one of the belts -- and Goodyear makes tires like this, where one of the belts is, instead of being the full width of the belt package, it is made in two pieces and the space in the center of the tire, there is no belt in that level.
Q. And in a tire that is constructed in that fashion, how many of those belts would be half belts?
A. Just one.
Q. So you would have three full belts

and then a half belt at one other layer?
A. That's correct.
Q. Now, did Michelin produce any radial medium truck tires back then that only had three belts?
A. You know, this has been over ten years ago. I don't really remember.
Q. Well, I believe you indicated that there were some smaller three-belt package tires?
A. Inner city delivery vehicles, small tires, 19-1/2, 17-1/2 inch tires that were covered by the medium radial truck tire group had three belt.
Q. So what sizes did those tires run?
A. I'm sorry?
Q. What sizes did those tires run?
A. An 8R19.5. There was a 17-1/2 inch tire, I don't remember exactly what size it was. But those were, again, small tires.
Q. Do you remember any of the Michelin radial medium truck tires that were constructed with three belts, the same size as the tire involved in the instant case?

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A. I don't recall.
Q. Can you say one way or another whether or not Michelin was producing three-belted radial medium truck tires that were the same size as the tire involved in this case?
MR. POLLAK: I think he answered. You can answer.
A. My experience with three-belt tires is they are all fairly small sizes. This is a very large tire.
Again, you know -- and I need to suggest to you that, you know, if you keep going along the lines of what I remember from Michelin, we are going to get into, you know, secrecy agreements and things like that. I'm not sure how much detail I can provide on what Michelin does in terms of design.
Q. That is understood. I'm just asking, very simply, if you can say one way or another whether or not Michelin radial medium truck tires that were produced while you were there that had three steel belts, were of the same size of the G-409 tire in this case?

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A. I would say absolutely not. A tire of this size, would have four layers of steel cord. They may have a half belt as one of those layers.
Q. So, in other words, it might have 3-1/2 belts as opposed to four full belts?
A. That's correct.
Q. That means there would be less steel in what portion of the tread surface of the tire?
A. The center --
MR. POLLAK: Objection to form. You can answer.
A. The center of the tire.
Q. And for how many inches across the center would that area of less steel be?
A. That would depend on the designer and what they actually decided to put into it.
Q. In your experience what would the ranges be of that area in the center of the tread where there was one less layer of steel?
A. I think that's proprietary design information for Michelin.
Q. And after you have been at

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Michelin, have you seen tires that have that type of design?
A. Yes.
Q. And what would you say the ranges were for those types of tires in terms of the area of missing steel in that belt that you described as a half belt?
A. Generally, if you see a tire like that, something less than a third of the summit is open in that center, you know, has -- the half belts cover over two-thirds of the -- generally, say two-thirds of the belt width.
Q. Would it be fair to say that the overall amount of steel in those steel-belt packages, would be less than what you would find in the steel that was contained in a tire that had four steel belts?
A. It depends on how the steel cord was arranged.
Q. It might, though?
A. It might not.
Q. But you can't say that it --
A. You can't say that it would or it

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wouldn't. It depends on how the steel was designed and paced and so on.
Q. Do you know if when you were at Michelin, if Michelin did comparisons between different designs of steel-belt packages to see which ones had more or less steel in them?
MR. POLLAK: Objection to the form. You can answer.
A. No, I don't.
Q. Do you think that would have been an important task for them to perform?
A. I'm sure someone in the company did that. I just wasn't privy to those results.
Q. When you say that you are sure someone did it, what is the basis of your saying that you are sure someone did it if you were not privy to those results?
A. Because we had -- Michelin had a competitive analysis group and their job was to look at competitive tires. And from time to time, I would see such analyses for certain kinds of tires.
Q. Did you ever see an analysis which

compared the amount of steel in one steel-belt package of the Michelin tire compared to another steel-belt package contained in a different model Michelin tire?

A. No, I did not.

Q. Are you familiar with the current line of Michelin radial medium truck tires?

A. No, I'm not.

Q. Are you aware that they make several radial medium truck tires that are constructed with three steel belts?

A. They probably do.

Q. Are you familiar with the XZA 3 design?

A. No, I'm not.

Q. Are you aware that it is described on their website as being "a premium, all position radial with extra wide, extra deep tread designed to help deliver our best wear in high scrub applications"?

A. No.

Q. Are you aware that this tire is constructed with three steel belts?

A. No, I'm not.

Q. Are you familiar with the XZE design radial medium truck tire currently produced by Michelin?

A. No, I'm not.

Q. Are you aware that that tire is currently constructed with three steel belts?

A. No, I'm not.

Q. Are you familiar with the XZE 2 radial medium truck tire that is currently produced by Michelin?

A. No, I'm not.

Q. Are you aware that that tire is currently constructed with three steel belts?

A. No, sir.

Q. Are you familiar with any radial medium truck tires currently produced by Michelin that have four steel belts?

A. No, I'm not. Again, I'm not familiar with any of the current Michelin designs. I've been out of Michelin for at least ten years.

Q. Well, other than Michelin, are you aware of the fact that numerous tire manufacturers produce radial medium truck

tires with three steel belts in the steel-belt package?

MR. POLLAK: Objection to the form. You can answer.

A. I'm sure they do. The last Michelin tire that I looked at in 315/80R 22-1/2 which is the same size as this tire, has four steel belts. But I'm sure they make tires that are three steel-belt tires.

Q. Would you say that steel-belt tires with three steel belts in the belt package, have less overall steel in the belt package area than tires with four steel belts?

MR. POLLAK: Objection. I believe this was asked and answered. You can answer.

A. No, sir. It depends on how the steel is arranged, the size of the cables, the pacing of the cables and so on.

Q. Have you done any comparative analysis between tires that have three steel belts in the steel-belt package, as opposed to radial medium truck tires that have four steel belts in the steel-belt package?

MR. POLLAK: Objection to the form. You can answer.

A. No, I have not.

Q. Have you done any puncturability studies between tires that have three steel belts in the steel-belt package -- and I'm referring to radial medium truck tires -- with those radial medium truck tires that have four steel belts in the steel-belt package?

MR. POLLAK: Objection to the form. You can answer.

A. No, I have not.

Q. Now, when radial medium truck tires, including those designed for commercial bus application, are retreaded, can you retread a tire that only has three steel belts in the steel-belt package?

A. I don't know.

Q. Is it your experience one way or another, whether or not such tires have been retreaded?

A. I would imagine they have. Sometimes when you have a four-belt system you can remove one belt and still retread the

tires so it would have three steel belts.
Q. So is it fair to say that a radial medium truck tire that is produced with four steel belts and designed to be retreaded, can continue in its second service life after retreading with only three belts, as opposed to its original four belts?
A. That often happens, and one of the reasons that can work is that those tires are never put on steer axles again.
Q. Has your experience been that when a three-belted tire that was formerly a four-belted tire is put into service, that they lose puncture resistance?
MR. POLLAK: Objection to form. You can answer.
A. Again, there would be a reduction in puncture resistance because you removed one of the steel belts, certainly. The tire was designed to have adequate service at -- with four steel belts. If you remove one of those belts and you would have a three-belt tire which would not be the same as a tire that was designed as a three-belt tire.

Q. Does the removal of the fourth belt mean that the tire that now is using only three belts, is defective?
MR. POLLAK: Objection to the form. You can answer.
A. Again, as I mentioned, those tires only see service as drive and tag -- or drive axle tires typically where they are paired with another tire. So puncture resistance really isn't an issue with those tires.
Q. Do you know of any studies that have been done which compare the puncture resistance of tires that were originally manufactured with four steel belts, but subsequently had one of those belts removed during the retreading process?
A. No, I do not.
Q. Has any statistical analysis ever been done as far as you know, comparing tires that were originally manufactured with four steel belts that later have one of those belts removed, in terms of their puncturability?
MR. POLLAK: Objection to form. You can answer.

A. No, sir.
Q. Do you know if the federal government has ever done any studies regarding the puncturability of retreaded radial medium truck and commercial bus tires that have had one of their original four belts removed?
MR. POLLAK: Objection to the form. You can answer.
A. No, sir.
Q. Has there ever been any defect finding by any investigating agency, regarding radial medium truck and commercial bus tires that have been retreaded and have had one of their original four belts removed?
MR. POLLAK: Objection. You can answer.
A. Could you repeat the question.
MR. KAPLAN: Could you please repeat it.
(Record read.)
A. Can you clarify the term --
Q. In terms of their ability to be punctured?
A. Can you clarify the term agency.

Q. Agency under the Department of Transportation.
A. No, sir.
Q. As far as you know, does any other agency, other than those operating under the United States Department of Transportation issue defect findings regarding commercial bus tires?
A. No, sir. But I just wanted to make sure that my interpretation of agency was the same as yours.
Q. Okay. Now, when you remove the fourth belt from a four-belt radial medium truck tire that has been retreaded, is that described as the outer belt?
A. Yes, sir.
Q. And is that given the designation of the number four belt?
A. That would be typically called the number four belt or the protector ply.
Q. So as you go towards the inner liner of the tire, you would have the number four belt, then the number three belt, then the number two belt, then the number one belt.

Is that correct?
A. That's correct.
Q. Now, just for a general description of what a cross-section of a radial medium truck tire would look like if you were going from the tread surface down, you first have to go through the tread area. Is that correct?
A. That's correct.
Q. Would the four steel belts or three steel belts or two steel belts if it was a light truck tire, be the next layer that you would encounter?
A. No, sir.
Q. What would the next layer be?
A. Typically the sub-tread.
Q. I'm sorry?
A. The sub-tread which is a cushion layer of tread rubber, softer material.
Q. 100 percent rubber, though?
A. Right.
Q. Then what would the next layer be?
A. It depends on the tire design. It may be a layer of nylon in the passenger,

light truck, they may have a circumferentially wound steel wire in the case of the Michelin tire. There may be any number of different things there before you reach the protector ply.
Q. Protector ply being the steel-belt package?
A. The fourth belt, yes.
Q. What other things would there be in between the tread area and the steel-belt package that would be made out of steel?
A. Well, Michelin makes a tire that has a circumferentially wound steel cord.
Q. Which tire is that?
A. I don't recall the designation. I know they were doing the design work for it when I left and it has been commercialized as far as I understand, but I don't know what it is called.
Q. When you say it is commercialized, you mean put into production?
A. Yes.
Q. Do you know what the application is for that tire?

A. No, I don't.
Q. Is that tire used on commercial bus fleets?
A. No, not that I know of.
Q. Is that a heavy equipment type tire used on bull dozers or other types of vehicles?
A. No, sir, those tires are not that sort of tire.
Q. Do you know what kind of vehicle use that tire was on?
A. No, I don't.
Q. Do you know any other tire other than that one that has this layer that you are speaking of?
A. No.
Q. And would the next layer then be the steel-belt package?
A. Yes, it would.
Q. And after the steel-belt package, what would you encounter?
A. Well, you would have the various levels of steel cord and then you have the body ply itself.

Q. I'm sorry, when you say the various level of steel cords, you are referring to the steel-belt package?
A. Steel belt, however many belts there are.
Q. Then after that you have the body ply --
A. Body ply.
Q. Are they also referred to as body cords?
A. Yes.
Q. And those would be the cords that you typically see in a radial tire that runs from bead to bead. Is that correct?
A. That's correct.
Q. And they run perpendicular to the direction of the circumference of the tire?
A. That's correct.
Q. And what is that, are those body cords usually constructed of, what material?
A. For what kind of tire?
Q. Radial medium truck tire.
A. Steel.
Q. And after that layer, what do you

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encounter?
A. Typically the inner liner.
Q. And the inner liner is the rubber layer which in effect creates the airtight seal for the tire when mounted on the rim, correct?
A. That's correct.
Q. Now, when the tire is retreaded and has one of the tread belts removed, how many miles is that tire expected to have in usage in the real world?
MR. POLLAK: Objection to the form of the question. You can answer.
A. That really depends on the manufacture of the tire and the type of retreading that it's gone through, but typically it will be some fraction of what it would have as an original new tire.
Q. It would not be uncommon for a tire like that to run another hundred thousand miles before an additional retread operation might be needed. Is that correct?
MR. POLLAK: Objection to the form. You can answer.

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A. Again, it depends on the tire and the service and so on. I have seen them as low as 60,000 miles.
But, yeah, I mean, if it is a Michelin tire, typically they expect to get considerably more than a hundred thousand miles on the retread.
Q. Now the wires that make up the steel-belt package, do you use terms like cords, filaments to describe the construction of the wire that is laid out in each individual steel belt?
A. You can use any terminology you like.
Q. Okay. Well, why don't, if you can give me a paragraph long description of the construction in the typical steel belt that goes into a radial medium truck tire, could you do that?
A. Sure. I think I can. A belt is made up of cables, encompassed in a natural rubber that is typically called a skim rubber. Each cable is made up of twisted sets of wires. So there will be a cord set of wires,

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typically three, two or three wires in a core.
And then those wires will be twisted together and then they'll be wrapped with another set of wires, and sometimes there will be a wrap wire around that whole bundle to make a cable.
And then the belt is made up of basically cables adjacent to one another on the bias; that is, they exist at an angle to the circumferential direction of the tire.
Q. Now, how do you distinguish between -- you said there were cables and then there were twisted wires and then they were wrapped with another set of wires.
A. Yes, sir.
Q. How do you distinguish between the terminology used for both of those, the first set that is wrapped around and then the set that's wrapped around those? Are they called filaments, are they called anything else?
MR. POLLAK: Objection to the form. You can answer.
A. I use wire because it is individual wires. The cable is made up of

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individual wires of different sizes, typically different sizes, but they can all be the same size as well.
Q. Because the wires are different sizes, that might mean that the cables ultimately are different sizes. Is that correct?
A. The cables within a steel belt will all be the same.
Q. No, I'm saying from design to design?
A. Yes, from design to design. From belt to belt they may be different.
Q. And when we talk about size, we are talking about width of the cable itself, diameter: how do you measure the thickness?
MR. POLLAK: Objection to the form. You can answer.
A. Typically, the diameter is used as the indicator, is, you know, what's the minimum size hole that this cable will fit through.
Q. And then there is a measurement that we have used before, ends per inch.

A. Yes.
Q. Could you describe what end per inch implies?
A. Ends per inch basically is the number of wires in an inch of cable. So if you measure an inch of cable and count the wires and you do that over a number of different inches and average it out, you will get the ends per inch.
Q. And you also said that sometimes there is an additional wrap?
A. Yes.
Q. Can you tell me what that is.
A. Some cables have a single wire that spirals around the first and second cord twists to complete the wire, to provide extra stability for the cord, for the cable.
Q. Are some of those single wires which spiral around simply there for the manufacturing process, as opposed to stability?
MR. POLLAK: Objection. You can answer.
A. I think different manufacturers

perhaps have different takes on that. I mean, certainly the wrap wires, or the frets as Michelin likes to call them, would, you know, provide some stability in the -- prevent the cords from moving around in the belt package.
Q. So am I correct that you are saying that when a single wire wrap is used like this, its purpose is pretty much left up to individual manufacturers who employ the use of that wrap?
A. Not necessarily. I mean it binds the cable together. Now, that has an advantage in manufacturing. It also has some advantage in design.
Q. Now, you mentioned that one of the variables is the EPI, the ends per inch. In radial medium truck tires, is there a range that you are familiar with of how many ends per inch there are in different belts or different belt designs?
A. That's a pretty broad question. I mean, you know, medium radial truck tires run the gamut from small 17-1/2 inch, 19-1/2 inch sizes to 24-1/2 inch bead diameters and so on,

and huge variations in width. So depending on the tire, you know, the tire range and its function, ends per inch can be all over the map.
Q. How about radial medium truck tires that are used for long-haul service operation or used for long-haul commercial bus operation?
A. Again, that depends not only on the tire size but also on the size of the wires and the thickness of the belt package itself.
Q. Now --
A. Obviously the thicker the wire you use, the lower the ends per inch are likely to be.
Q. Right. What was the lowest number of ends per inch that you have ever seen in a steel belt of a radial medium truck tire that was used for long-haul operation or commercial bus operation?
A. I don't recall. I mean, I don't typically count them.
Q. Could it have been less than ten?

MR. POLLAK: Objection to form. You can answer.
A. Well, for heavy cable, yes.
Q. In terms of the diameter of the cable, what would you say the range is for the diameter of cable that would be used in a steel-belt package for a radial medium truck tire that is used for long-haul service or commercial bus service?
MR. POLLAK: Objection to the form. You can answer.
A. Again, that's all over the map. It depends on the manufacturer.
Q. So there is no industry standard as far as you know for the diameter of a steel belt cable that's used in a steel belt in a radial medium truck tire that is used for long-haul service or commercial bus service?
A. There is no standard for design, period.
Q. And the same question regarding ends per inch. Is there any industry standard in terms of how many ends per inch there would be in a belt design for a belt that's used in

a radial medium truck tire that is in long-haul service or used for commercial bus service?

A. No, sir.

Q. You mentioned the thickness of the belt package. Would that be the measurement that you go from the top of the number four belt to the bottom of the number one belt more or less?

A. Well, that would encompass all the belts, but each belt has an individual thickness as well.

Q. But when you were referring to thickness before, were you referring to the cumulative thickness of the different belts?

A. Both. Both the thickness of the individual belts, as well as the overall belt package.

Q. Is there any standard for belt or belt package thickness for belts or belt packages that are used in radial medium truck tires that are designed for long-haul service or for commercial bus service?

A. There is no design standard.

Q. So when you look at a tire, a radial medium truck tire that has a certain belt package or belt thickness, you can't determine one way or another whether or not it doesn't comply with an industry standard, is that correct?

MR. POLLAK: Objection to the form. You can answer.

A. There is no industry design standard.

Q. And the same question regarding the diameter of the cables used in a steel-belt package for radial medium truck tires for long haul and commercial bus operation: you cannot look at a design and say that it's diameter does not comply with industry standards. Is that correct?

A. That's correct.

Q. And the same thing for the EPI count, you cannot look at an EPI count of a radial medium truck tire in terms of its steel-belt package and say that that EPI is not within industry standards?

A. That's correct.

Q. Now, when we were talking about the direction that the wires, the cables run, you used the term bias, and that means they run at an angle to the direction of the tread of the tire. Is that correct?

A. That's correct.

Q. When the belts are laid on top of each other, are they laid in such a fashion that the belts are biased in the same way or that they are biased in the opposite direction?

A. Depends on which belt you are talking about.

Q. Well, let's say, let's talk about a four-belt tire for the moment. If the number four belt is biased one way, would the number three belt be biased another way?

A. It might or might not. Typically it would not. Typically, it will have the same angle, or similar -- it will be in the same direction. It may not have the same angle, but it will be in the same direction as the number three which will be opposite to the number two and then -- because the two and

three belts are considered the working belts of the tire.

Q. So the two and three belts would run in opposite angles, is the correct?

A. That's correct.

Q. And would the one belt operate in the same -- I'm sorry, would the one belt be biased in the same angle as the four belt or different?

A. Typically it is going to be opposite the one belt and at a very different angle.

Q. So you get basically a honeycomb pattern when you look down. If you could look down at the belts laid one on top of the other, it would look like a honeycomb pattern, is that correct?

A. That's correct.

Q. The wires criss-cross?

A. Yes.

Q. And it kind of looks like a waffle at an angle?

A. Yes.

Q. Now, when you look down at the

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image that's created, this honeycomb-type image, if you were looking through an x-ray, that's a two-dimensional image that you get. Is that correct?

A. An x-ray is definitely a two-dimensional image.

You can -- I have seen CAT scans of tires and they are three-dimensional images but they are very expensive to make, so typically people work with x-rays.

Q. And the x-rays you took in this case are two-dimensional views looking down through the tread towards the inner liner, is that correct? Or the other way, looking out from the liner out towards the tread.

A. That's one way to do it, yeah.

Q. Did you do that?

A. I did that, as well as shooting at an angle through the sidewall, through the tread and through the outside.

Q. Now, when you look at a steel-belt package in a tire, based on the specifications, you can determine the percentage of steel versus non-steel that's in

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a square inch of a steel-belt package, is that correct?

A. Can you repeat the question.

Q. Well, based on the specifications of, the design specifications of a radial medium truck tire, can you determine per square inch how much steel there is in the belt package area versus non-steel?

A. Well, you can determine what that ratio is in a green tire, in the unvulcanized tire, and those numbers change in the cured tire. So from the specs, from the green tire specs you can determine what it is for the green tire.

Q. And the change is within certain manufacturing tolerances?

MR. POLLAK: Objection to the form. You can answer.

A. The change has to do with the pantographing of the belts as they go into the mold, and how much, what we used to refer to as lift, how much push you need to get into the mold, because that generates pantographing of the belts and a compression of the belt

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system, yes.

Q. For instance, if a tire, based on its specifications, the green tire specifications, had 40 percent of steel per square inch versus 60 percent of non-steel, what would happen to those percentages as a result of the manufacturing process? Would there be -- could the percentage of steel go up, could the percentage of steel go down? You tell me.

MR. POLLAK: Objection to form. You can answer.

A. Well, typically what happens is the steel core gets a little closer together in the cured tire.

Q. And what does that mean?

A. So the steel density goes up some fraction.

Q. And when you say fraction, if it was a 40 percent distribution of steel per square inch, would that go up to 41 percent, 45 percent?

A. It depends on the lift and the design of the mold and how the green tire is

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put together, the angle of belts and any number of other variables.

Q. Could it go up as much as 5 percent?

MR. POLLAK: Objection to the form. You can answer.

A. Again, I don't recall.

Q. You don't know one way or the other?

A. Well, it -- it may go up 5 percent, certainly.

Q. Could it go down 5 percent?

A. Not likely.

Q. What would be more likely?

A. That it would go up.

Q. And if it went down, what percentage would it go down?

MR. POLLAK: Objection to the form. You can answer.

A. I don't know the answer to that question.

Q. Could it be one, two percent, three percent?

MR. POLLAK: Objection: asked and

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answered.

A. I already said I don't know the answer to the question.

Q. Okay. So if you have a tire of one design that has 40 percent of steel per square inch in the belt package, and another tire which by design has 45 percent of steel in the belt package per square inch -- and this again is based on the green tire specs, correct?

MR. POLLAK: Objection to the form of the question.

A. Those are the numbers you are giving me, yes.

Q. Is it possible that when those tires are produced, that the tire with 40 percent could rise in terms of its percentage of steel, and the tire with 45 percent can either drop or remain the same in terms of its percentage of steel per square inch so that they would have the same amount of steel coverage per square inch?

MR. POLLAK: Objection to the form. You can answer.

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A. That's a non-answerable question.

Q. Why is that non-answerable?

A. Because if you tell me those two tires are made by the same company and they are the same size, I can give you an answer.

If you tell me they are made by the same company and they are two different sizes, it can't be answered, not easily. And if they are made by two different companies, you have no idea.

Q. Well, let's take the second suggestion, it is the same company but different models?

A. Different sizes?

Q. Same size different model steel-belt package, different design steel-belt package.

MR. POLLAK: Objection to the form.

Q. Is it possible that the size that has 45 percent of steel coverage per square inch, and the design that has 40 percent of steel coverage, could equal out after the production process?

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MR. POLLAK: Objection. You can answer over the objection.

A. If they are the same size tire made by the same company, the answer is no.

Q. And why is that?

A. Because tire companies use standardized building blocks and so on. The beads are probably going to be identical. Certainly the molds will be designed with the same philosophy and the same lift ratios and things like that. So they are going to be -- whatever happens to one tire, is going to happen to the next.

Q. Does that happen to every single tire during its production process? I mean, aren't there tolerances from tire to tire in the manufacturing process which account for variations for things like this?

MR. POLLAK: Objection to the form. You can answer.

A. Within a given tire design, yeah, but not within -- I mean, you know, you don't expect two tires that are made, you know, from two different companies to be covered by the

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same set of tolerances because each company has its own tolerances that it makes up as it goes along.

So, you know, for example in Goodyear's case the tolerances on wire strength is plus or minus five percent. So, you know, if you happen to make a tire with weak wire one week, and a tire with strong wire another week, you are going to get slightly different performance results out of identically the same tire.

Q. Let's go back to, though, the scenario that we talked about before where a tire can increase the amount of steel coverage by the amount of 5 percent per square inch from the green tire spec. Do you remember we were talking about that?

MR. POLLAK: Objection. You can answer.

A. Yes.

Q. Is that going to happen in every single tire that is manufactured by the same manufacturer: is it always going to be a five percent increase?

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MR. POLLAK: Objection. You can answer.
A. No, sir, but they will be similar to one another. It might not be identically the same number, and certainly from tire to tire within the same batch they are going to be different, slightly different.
Q. Some might not increase at all?
A. No, I didn't say that. I said some might be 4.8 percent, some might be 5.2 percent.
Q. How about 3 percent?
A. Maybe. It depends on the control that the company has on its process.
Q. How about 2 percent?
A. It depends on the control the company has on their process.
Q. So, in other words, the differences between a tire that's designed with its green tire spec having 40 percent steel per square inch, might ultimately be about the same amount of steel coverage as a tire that has 45 percent in its green tire spec?

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MR. POLLAK: Note my objection. asked and answered. You can answer.
A. Yeah, that's not what I said.
If the tires are designed different, they will typically, you know, be different in the finished product, because they will move in the same general direction if they are made by the same company because companies design their processes and their processing equipment and their molds and so on, with the same general philosophy.
Q. Now, is the percentage of steel versus non-steel in the square inch of a radial medium truck tire's belt package, something that's directly stated or listed in the tire specifications?
MR. POLLAK: Objection. You can answer.
A. Is the --
Q. In other words, is that figure there, or is it something that you have to make a measurement or a calculation to figure out?
MR. POLLAK: Objection. You can

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answer.
A. That's something you have to calculate.
Q. Would the square inches from different locations of the same tire, have the same percentage of steel versus non-steel?
In other words, would the distribution be the same or consistent throughout the steel-belt package of one particular tire?
A. No, sir.
Q. They could be different?
A. It would be slightly different, especially as you get out near the belt edges.
Q. Would there be more or less steel per square inch in the belt edge area?
A. Well, the belt edge area, the belts aren't all the same width. So because there is a difference in width, you know, when you get out to the outside edge of the tire, the outside edges of the steel belts sometimes you have one steel belt, sometimes you have two, sometimes you have three, sometimes you have four, so.

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Q. And that's out towards the shoulder area?
A. That's out towards the shoulder area, yes.
Q. The puncture that is involved in the subject tire in this case, was that out towards the shoulder area or was that more towards the center of the tread?
A. If you don't mind, I --
Q. Absolutely, if you need to take a look at something, that's fine.
(Discussion off the written record.)
MR. KAPLAN: Can we go off the record for two minutes.
THE VIDEOGRAPHER: We are now going off the record at approximately 10:41 a.m.
(Off the record.)
THE VIDEOGRAPHER: We are now going back on the record approximately 10:51 a.m.
MR. KAPLAN: Do you need the last question repeated?

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THE WITNESS: No, sir.
MR. KAPLAN: Okay.
MR. POLLAK: I do. Can you please read it back.
(Record read.)
MR. POLLAK: Thank you.
A. It's in one of the inboard tread ribs, so it is toward the center of the tire.
Q. If you had to pick a spot on the tread area of that tire where there would be more or less steel coverage beneath it, that would be a likely spot, is that correct?
MR. POLLAK: Objection to the form. You can answer.
Q. In other words, you indicated that the belt steel coverage per square inch from location to location on a tire might vary with lesser amounts being towards the shoulder area. Correct?
A. With lesser amounts in the, you know, outboard of the last tread rib where the belt ends or edges are. So this is, you know, on an inboard tread rib so that, if anything, things are fairly constant here.

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Obviously they are denser in the exact center, under the center rib, but they are fairly constant here.
Q. Okay. Now looking at a two-dimensional image of the honeycomb pattern, you get what I describe as a steel coverage pattern. Do you understand what I'm talking about?
A. Yes, sir, I do.
Q. In other words, you are looking at a two-dimensional, almost like a crossword puzzle looking picture, and you can make a measurement possibly of how much steel you see versus how much non-steel area you see. Are you with me?
A. I suppose that's possible, but the steel cords may overlap one another so it is tough to say that a given steel line in an x-ray, isn't multiple steel cords depth and deep.
Q. Right. So when you look at that two-dimensional image in terms of the steel coverage, you are not seeing all of the steel that is actually there because of the overlap.

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Is that correct?
A. It could be. It depends on how the steel is laid out.
Q. In terms of puncture resistance, do you think that the layout is as important or not as important or it doesn't matter when compared to the total amount of steel that's in the steel-belt package?
MR. POLLAK: Objection to the form. You can answer.
A. Well, puncture is related to aerial density. So the total amount of steel, and the total amount of rubber, the aerial density of the tire is what's important.
Q. In other words, you don't consider how the steel is laid out in a particular square inch in terms of a tire's puncture resistance; you look towards the total amount of steel versus non-steel. Is that correct?
A. Well, that would be the -- that would be the gross assessment. You really don't have a finer assessment than that. I mean, there is an infinite variety in how wires are placed in tires by various companies

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and in various designs. So the easiest thing to do is to look at the aerial density.
Q. Well, you know how geologists when they take a soil sample, they can stick a tube down and they can kind of see what each layer of the subsoil looks like in terms of how much of a different material is there and at what level. Do you know what I'm speaking of?
A. I think I do.
Q. Is that something you could do with a tire when you go down from the tread through the belt layers but right before you get to the body cords?
A. If you cut the tire through the belts, you can -- that's a fair assessment of what's going on.
Q. Well, in some areas you are going to encounter steel towards the top, isn't that correct? You might go through an area where the four-belt steel is present. Is that correct?
MR. POLLAK: Objection to the form.
Q. In other words, if you just take a

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probe going down different portions of a tire, in some areas you may hit a portion of the number four steel belt, and in some areas you might not hit a portion of the number four steel belt. Is that --

A. By portion are you talking about a cable?

Q. Correct.

A. Yes, you might hit a cable, you might not hit a cable, and depending on the size of the probe --

Q. Right.

A. You know.

Q. And the same would be true if you went through that belt four layer and got into the belt three layer, isn't that correct?

A. That's correct.

Q. Depending on where you are on the tire's tread, you may or may not come into contact with a wire from the number three belt?

MR. POLLAK: Objection to the form. You can answer.

A. That's correct.

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Q. And the same is true once you get down to the number two belt, if you get that far, isn't that right, you may or you may not?

A. I would say that's true for every belt.

Q. For every single belt all the way down?

A. Including the body ply.

Q. And these probes would show inconsistent results from different areas around the tire, isn't that correct? Some might cause contact with the cords in the number four belt and the number two belt. Others might have contact with wires in the number one belt, in the number three belt. There are all kinds of different combinations that can happen, isn't that correct?

MR. POLLAK: Objection. You can answer.

A. I would agree with that. You are talking about taking, you know, a small hole and cutting a hole out and looking at whether you have steel at a given layer, yeah.

Q. And would it be fair to say that I

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wouldn't be able to predict what I would find depending on where I put a probe into the tread surface of any particular radial medium truck tire, is that correct?

A. I think that's a fair assessment, yes.

Q. Can you predict if a nail or a screw is going to go through a tread and through a certain amount of steel belts on a particular tire on every single occasion?

MR. POLLAK: Objection to the form. You can answer.

A. No, sir.

Q. In other words, you could run the same tire over a same screw or a same nail under identical conditions, and depending on what portion of that tread makes contact with the screw or the nail, you may have a different result in terms of how the tire is punctured?

MR. POLLAK: Objection to the form. You can answer.

A. I guess I would express it a little differently than that. I would say if

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you did it a hundred times, there would be an average, there would be some level with which that penetration would get to, and there would be certain occurrences where it goes further and certain occurrences where it doesn't go as far.

Q. Have you ever encountered any studies where something like that has been done, where tires have been run over nails or screws and data is kept over, let's say, a hundred times or however many times the situation is recreated?

A. No, sir.

Q. Have you ever heard of any situations where manufacturers compare the ability of one tire that they design, with another tire that they design -- I'm talking about radial medium truck tires in this fashion -- to determine whether or not one tire is going to have a greater puncture rate than the other tire?

MR. POLLAK: Objection to the form. You can answer.

A. No, sir.

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Q. Do you know if, or have you ever heard of any manufacturers doing that type of comparative study between tires they manufacture and tires that other manufacturers produce?
A. No, sir.
Q. What would you say the minimum percentage of steel should be in a radial medium truck tire used in long-haul service or bus service per square inch?
MR. POLLAK: Objection to the form. You can answer.
A. I wouldn't say.
Q. Why wouldn't you say?
A. Because, again, depending on how it's laid out, how it is put in, what, you know, what kind of angles, there might be a range there. I just don't know what it would be.
Q. So you have never calculated a range based on how much steel versus non-steel would be acceptable or not acceptable?
A. No, sir.
Q. Do you know if anybody in the

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industry, the tire industry, has ever done something like that?
A. No, I don't.
Q. As opposed to a minimum amount of steel, have you ever heard of there being a range in terms of how much steel versus non-steel should be in a steel-belt package per square inch?
MR. POLLAK: Objection to the form. You can answer.
A. No, sir.
Q. Have you ever heard of any studies or tests where the, where tires with different percentages of steel versus non-steel per square inch in the belt package, were compared to one another for puncturability?
A. No, sir.
THE WITNESS: I'm going to have to take a break guys, sorry.
MR. KAPLAN: Okay.
MR. POLLAK: No problem.
THE VIDEOGRAPHER: We're now going off the record at approximately 11:02 a.m. This is the end of tape No. 1.

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(Recess taken.)
THE VIDEOGRAPHER: We're now going back on the record at approximately 11:09 a.m. This is the beginning of tape No. 2.
BY MR. KAPLAN:
Q. I had previously asked you a question about whether you knew of any testing regarding whether or not there was more or less puncture resistance in an RMT tire that had more steel coverage per square inch in its steel-belt package, versus an RMT tire that had less steel in a square-inch area. And you said that you knew of no testing, is that correct?
A. That's correct.
Q. Would it also be fair to say that you know of no articles or studies relating to that concept?
MR. POLLAK: Objection to the form.
Q. Okay, let me rephrase it. Is it also fair to say that you know of no articles or studies concerning whether an increased

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amount of steel in an RMT belt package per square inch, is more effective in terms of puncture resistance than an RMT tire with less steel per square inch?
MR. POLLAK: Objection to the form. You can answer.
A. That's correct.
Q. And would the same answer also be correct if I said if there was any peer review material whatsoever regarding that?
A. That's correct.
Q. Now, is the identical screw or nail lying on a road, always going to cause a puncture in a tire of the same model and design when it runs over it?
MR. POLLAK: Objection to form. You can answer it.
A. No, sir.
Q. Is there anyway for you to predict whether or not the same puncture, or whether or not a puncture will occur at all when one tire of the same design is run over the same screw or nail?
A. No, sir. It is an absolutely

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random event.

Q. Is there anyway for you to determine whether or not a G-409 C-3 revision tire running over a screw or a nail is always going to result in a puncture to that tire?

MR. POLLAK: Objection to the form. You can answer.

A. I'm not sure I understand your question.

Q. Well, let's take the type of screw that you have identified in your x-ray analysis in this case. Is there anyway for you to predict whether or not a G-409 tire with a C-3 revision, is going to always be punctured when run over that type of screw?

A. No, sir. Again, it is a completely random event, random energies, random orientations.

Q. Same question regarding a G-409 tire pre-C-3 specification, is there anyway to tell if that type of tire will run over the screw that you have identified in this case, is always going to result in a puncture?

MR. POLLAK: Objection to form.

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You can answer.

A. I think the same answer applies. It is completely random orientation. Some of them will; some of them won't.

Q. Is there anyway to do a comparative analysis between whether or not a C-3 G-409 tire run over the same screw is going to result in a puncture, as opposed to a pre-C-3 G-409 tire?

MR. POLLAK: Can you please read back the question.

(Record read.)

MR. POLLAK: Objection to the form. You can answer.

A. Okay. I think the answer to that is, that's what I did with the flat analysis. You know, obviously, you can't -- you know, every puncture isn't that particular screw. But certainly the propensity for punctures is clearly captured in the flats analysis from the response desk, maintenance response desk data.

Q. That's the 1852-page document you are referring to, correct?

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A. Yes, sir.

Q. Let's put that on hold for a second.

Is there any other comparative analysis that you can make, as I have asked you, between whether or not a C-3 G-409 tire is going to result in a puncture when it runs over a screw, as opposed to a pre-C-3 G-409 tire?

MR. POLLAK: Objection to form. You can answer.

A. The only way to do that would be in a population analysis; that is, you look at what's coming back out of the field which is the way the tire industry rates tires anyway. It evaluates the design. It evaluates how well the tire is working. It evaluates whether to update the design or change it in some way. It's a field analysis. Okay? And so when you say set aside the only study that's out there, no, there is no others that I know of.

Q. Well, you refer to it as a study. Is that an accurate description of what it is?

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A. Well, again, that's what field, you know, that's what field data analysis is. It is taking the data that comes back from the field and drawing conclusions about what's happened, you know, and in this case the, because punctures are random, the randomness did not occur -- you know, there wasn't an increase in randomness on the road or increase in the number of puncture entities on the road. There is no reason to believe that. So the only thing out there then is the fact the tire changed.

Q. Was there any mention of the 1852-page document from the maintenance response desk being a study to determine the rate that Greyhound's tires were being punctured?

A. No, sir. There is nothing that says it was a study.

Q. Now, when you use the term puncture resistance in a tire, does that mean impervious to puncture, or what, what does puncture resistance as far as you're concerned mean in a radial medium tire?

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MR. POLLAK: Objection to form. You can answer.

A. Well, puncture resistance is essentially the ability to resist a complete penetration of the tread, you know, by some fraction of the total population of puncturing energies and entities that exist in the road.

Q. Now, when you use the term complete penetration, you mean an object that goes through the tread all the way through the inner liner. Is that correct?

A. That's correct.

MR. POLLAK: Objection to form. You can answer.

A. That's correct.

Q. Would you say that a tire that prevented an object from going all the way from outside the tread through the inner liner, is sufficiently puncture-resistant?

MR. POLLAK: Objection to the form of the question.

A. If the tire allows the inner liner to be breached, either because the puncturing entity made it there or because wires migrated

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there, or some combination of the two, then a puncture occurred, you know, whether or not the puncturing entity actually, you know, remains extended through the inner liner after the, you know, after the vehicle comes to rest.

Q. I'm not sure if you answered my question, though.

What I'm asking you is, if a tire prevents a puncturing object from going through to the inner liner, whether that tire was satisfactorily puncture-resistant?

MR. POLLAK: Objection: asked and answered. Also, I object to the form. You can answer.

A. Well, it is certainly satisfactorily puncture-resistant for that particular puncture. That doesn't mean there isn't another puncture out there that couldn't puncture the tire all the way through.

Q. Now, in the instant case, we have a screw that punctured through the tread and went so far as the belt package area. Isn't that correct?

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A. That's correct. In all likelihood it went slightly further and then backed up to lock into the, in -- you know, the screw has -- the major diameter of the screw is larger than the pace of the belt, the opening in the belts, so it would tend to lock into or get trapped, you know, in the belts. So it goes in and then comes back out where it snapped off.

Q. So the belts trapped the screw, is that correct?

MR. POLLAK: Objection to the form. You can answer.

A. The belts trapped the piece of screw that was still left in the tire, yes.

Q. And the screw as a result did not penetrate the inner liner, correct?

A. That's a hypothetical. In my opinion it did, it did penetrate the inner liner and then pushed back out again.

Q. You are saying the screw itself, not another object which you refer to as a migrating wire, the screw itself penetrated the inner liner?

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A. I think the screw actually pushed the wire into the inner liner.

Q. Well, that's not what I'm asking you. I'm asking you whether or not the screw itself punctured the inner liner?

A. Yes, it did. It pushed the wire into the inner liner.

Q. No, I'm not asking what it pushed. Did the tip of the screw penetrate the inner liner?

A. Yes, it did.

Q. Where is the evidence of that, of the tip of the screw penetrating the inner liner?

A. Well, there is no evidence of that.

Q. So what's the basis for your statement that the tip of the screw penetrated the inner liner?

A. Because there is no evidence that it didn't. There is absolutely no evidence that the wire happened to migrate there all by itself.

Q. If there is no evidence in your

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view that it did, and no evidence that it didn't, then you can't say by a preponderance of the evidence whether or not the tip of the screw penetrated the inner liner, is that correct?

MR. POLLAK: Objection: asked and answered. It is also argumentative. Over objection, you can answer.

A. The, you know, the wire, I don't believe, would have migrated through the inner liner by itself. I think it had to be pushed there by the screw. And the only way it can be pushed there by the screw, is if the screw actually carries it to the inner liner.

Q. Correct me if I am wrong, but I don't believe I asked you whether or not the screw pushed a wire through the inner liner. I asked you whether or not the tip of the screw itself penetrated the inner liner. And is the answer to that yes or no?

MR. POLLAK: Objection: asked and answered. Same objection. You can answer.

A. Yes.

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Q. And again, I asked you what the evidence was for that, and you said there is none supporting that it did and there is none contradicting that it did. Is that correct?

A. In my opinion the evidence is the wire is through the inner liner. In my opinion it wouldn't get there by itself. So the screw had to get it there.

Q. Well, the screw encounters -- we are talking about a wire that came from one of the belts, correct?

A. That's correct.

Q. And that's before the screw even would have gotten to the body cords of the tire, correct?

A. That's correct.

Q. So at some point contact is made by the screw to a steel belt wire. Do we know if the steel belt wire came from the number four, three, two or one belt?

A. I don't think that's been determined.

Q. Have you determined that?

A. No.

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Q. And then that wire, because of the force of the contact, is driven through the inner liner. Is that correct?

A. That's correct.

Q. But, again, the screw itself did not actually physically go through the inner liner, correct?

A. How can the screw drive the wire through the inner liner without going there itself? That's physically impossible.

Q. You are saying that the force of the screw which broke or chipped the wire was not enough to just make that wire itself penetrate through the inner liner?

MR. POLLAK: Objection to the form of the question. You can answer.

A. It has to carry the wire with it. It can't -- there is no way for it to -- I'm not sure I agree that it was a belt wire, but, you know, I tend to think it was a body ply wire, but there you go, I don't have a measurement of it.

And the reason, the reason for that is that, you know, it takes a fair amount

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of time to migrate a wire in a tire. That doesn't happen overnight. And the leak rate that I measured on this tire just simply does not support this puncture having been in there for any amount of time.

Q. Well, we will get to the leak rate.

A. Um-hum.

Q. But you are saying through the laws of physics, you have an equal and opposite reaction, right? You have something that is hitting a wire with enough force that the wire won't be able to be displaced and pierce through the inner liner rubber on its own, just from the force of being struck. Is that what you are saying?

MR. POLLAK: Objection to the form. You can answer.

A. Well, this is not like billiards where you hit a ball and it rolls off on its own.

The wire won't roll off on its own. It has to be dragged by the puncturing entity.

Q. What if the wire was struck and positioned in such a way that it was facing perpendicular to the surface of the inner lining, okay?

A. Okay.

Q. Would subsequent revolutions of the tire cause extra force to be applied and cause that wire to penetrate the inner liner?

A. Well, if it is turned, and it doesn't have -- if it is not far enough along to get to the inner liner, then what you are supposing, further wire turns down.

In other words, it is still connected to the cable. So in order for further wire to turn down, it has to be because the wire, the wire bundle is basically becoming unwrapped, that is, there is no wrap cable holding it altogether, no wrap wire binding the cords.

And, again, that's going to take a while and it is basically going to migrate away from where the screw is. And the physical evidence we have is this thing's right in line with the screw. There is no

migration away from it or anything else.

Q. What is a while, how long would that process take?

MR. POLLAK: Objection to the form. You can answer.

Q. You said it would take a while.

A. Yeah, it would --

MR. POLLAK: Objection to the form. You can answer.

A. It would certainly take more than a day.

Q. How about two days?

A. More than a day.

Q. How about two days?

A. More than a day.

Q. How about two days, would that be enough?

A. It depends on how many miles you are driving and what kind of load.

Q. How many miles would you need?

A. Again, in the absence of a binding wire, I don't know. I don't think anybody can tell you the answer to that correctly or within any reasonable degree of certainty.

Q. So in other words you cannot refute that it could have happened within two or three days over a distance of 500 miles, is that correct?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Again, I wouldn't know any basis for that as well. That's a guess on somebody's part.

Q. Can you refute that, though?

A. As easily as somebody might be able to refute my one day or less.

Q. So you think it is like a 50/50 proposition here?

MR. POLLAK: Objection to the form of the question. You can answer.

A. More miles are better. The longer -- you know, it takes a while for a wire to migrate in a tire. It doesn't happen instantaneous. You have got to extract that wire from somewhere in the cable.

Q. How about if it was 600 miles over five days?

MR. POLLAK: Objection to the

form.

A. Wire migrations that I have seen have been over thousands of miles.

Q. How many thousands?

A. Thousands of miles. I don't know how many thousands of miles. But they didn't happen in two or three days. They didn't happen in -- you know, they happened where a wire is misplaced in the construction of the tire, so the tire is new.

I see it after it has failed, it is, you know, 50,000 miles down the road and there is a migrated wire.

Q. I'm talking about a situation where you have a radial medium truck tire that's been punctured into the tread belt package by a screw. Have you seen any other situations like that in terms of belt migration?

MR. POLLAK: Objection to the form. You can answer.

A. Again, I don't see how the belt wire would migrate. It is attached at both -- it is attached at one end. How can it

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migrate?
Q. Again, I'm asking you is it less likely, more likely or just as likely that it could have migrated over a period of days, as opposed to the screw tip driving the wire through the inner liner?
MR. POLLAK: Objection to the form of the question. You can answer. It has also been asked and answered. You can answer the question.
A. I think it is absolutely unlikely that the barred wire migrated at all.
Q. And why do you say it is unlikely?
A. Because it is still -- the wire is only cut in one place. So for it to migrate, it -- typically, the wire has to be free. It's got to be able to move. It is attached at one end of the cable. Whichever cable it came from, it is attached. So the chances for it to migrate, are very, very small, one.
Second, it is directly under the line of the screw. So if it's, if it's, if it starts out, if you want to have a hypothesis that it migrates and it starts out adjacent to

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the screw, then the only way for it to get enough length to actually go through the inner liner, means it has to move away from the liner, the screw because it is attached at the one end of the cable.
Q. Well, it didn't migrate, did it? I mean, it is attached to the cable and it extended through the inner liner.
MR. POLLAK: Objection to the form of the question. You can answer.
A. Again, I believe that the wire was pushed into the inner liner by the screw. The screw actually drove it through the inner liner.
Q. And what portion of the screw would have had to have hit the tire in this fashion to cause it to drive down like that?
A. One of the threads. I mean, the tip is going to have to cut the wire and because the screw gets dramatically larger and it has threads on it, it is going to tend to drag the wire along with it.
Q. Now, when it is dragging the wire, isn't the wire extended ahead of where the

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screw is?
MR. POLLAK: Objection. You can answer.
A. Probably not. Again, it is being pulled along by the thread, not the tip.
Q. When you say it is being pulled along, isn't a portion of the wire sticking out ahead of where the screw tip is?
A. Not likely. Again, the screw tip may cut the wire, but it is being drug along by traction between the thread and the rubber around the wire. So it, you know, it lags the screw tip by some amount.
It is not like the wire is huge and the screw tip spears the wire tip and pushes it ahead of it. That doesn't happen.
Q. And what in the x-ray tells you that?
MR. POLLAK: Objection to the form. You can answer.
A. Well, the shape of the screw. The screw tip is, you know -- you can't see the penetrating wire in the x-ray. So I know -- but I know the screw tip, you know, if the

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screw tip cuts the wire, then the only thing to drag, the only thing to provide traction on the wire is not the screw tip because it's already passed.
Q. How far was the screw tip from the inner liner?
MR. POLLAK: Objection to the form of the question.
A. About, from the inside of the inner liner, about .08 inches, .08 or so.
Q. And did you measure the hole where the wire was that penetrated the inner liner?
A. No, I didn't.
Q. Was that hole equal to, less than or greater than the size of the diameter of the screw?
A. Based on my microphotographs, it is slightly larger than the diameter of the wire.
Q. Did you measure the hole in the photographs?
A. No.
Q. So then why are you saying it is slightly larger?

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A. Because you can see the diameter of the screw or the diameter of the wire and you can see the hole just slightly larger than it.

Q. But you made no measurement of it?

A. No, I didn't.

Q. Now, you have indicated that the screw was trapped in the steel belts, isn't that right?

A. That's correct.

Q. So how is it that the screw, if trapped in the steel belts, could penetrate into the liner and then settle back out of the liner?

A. Well, remember that the screw punctures in and then it's snapped off. All right, so in that process of snapping off, it is going to settle back to a locked position.

Q. Well, what's exactly trapped in the steel wires? Isn't the thread of the screws --

A. The threads of the screws are held between wires.

Q. So why does it matter that the

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portion that's sticking out of the tread is cut off if the threads are trapped within the steel belt area?

MR. POLLAK: Objection to the form. It has also been asked and answered. Over objection, you can answer.

A. I'm not sure I even understand the question.

Q. Well, you said that the reason why you believe the screw came back away from the liner was because a portion of the screw was snapped off. Is that correct?

MR. POLLAK: Objection. You can answer.

A. Well, I think that that's the most likely scenario. The screw is going to settle to a point of minimum energy and that's going to be where the wires between -- in the belts are sitting at the minor diameter, that is, between the threads. All right?

So when the screw punctures in, if it is not at that energy, it's going to back out. It only has enough energy to get to a

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certain place and it won't go any further, so it has to back out. Plus, when the screw is snapped off, that's going to tend to pull it back a little bit.

Q. Why does it have to back off? Why doesn't it stay exactly where it stopped?

A. Because --

MR. POLLAK: Objection. You can answer.

A. Because it is physically unstable there. It is not the point of minimum energy. It is the point of minimum energy -- I mean, the belts are -- the belts are -- if it is sitting at a point of a major diameter on a thread, then the belts are stretched. And as they work, it is going to pop the thing back. It is going to push it back. And since the, since the break is just below the top of the outer belt, you know, I mean, it is right at the top of the outer belt. You can see that there is steel in there but you can't, you know, it was almost impossible to determine what it was, and because these screws tend to be fairly brittle, you know, they tend to

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break if you bend them.

My opinion is that the screw went in, did its dirty work on the wire, and the next time the tire came around, it snapped the extra portion of the screw off. Because there was nothing in the tread, you know, there was no screw piece in the tread, and there was no impression on the tread to suggest that the screw had been bent over and run for a while to cut an impression into the tread. It was a clean cut.

Q. Now, if I wanted to confirm what you have just told me in terms of how a screw migrates or doesn't migrate in the steel-belt package of a radial medium truck tire, what might I go to read, what journal or book might I read that describes that process?

MR. POLLAK: Objection to the form. You can answer.

A. Well, you would probably start out with Energy Methods in Elastodynamics. You may start with --

Q. Right, some type of theoretical study?

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A. Well, it is not a study. It is the basics of energy methods. That is, systems seek minimum energy states.

Q. Have any tire manufacturers done any studies on how the steel belts or -- strike that; how screws penetrate a steel-belt package?

A. No, not to my knowledge.

Q. Has any study been done which examines how a steel belt is affected by being struck by a screw in an in-service operation, as far as you know?

A. No, sir.

Q. Has any peer-reviewed article or study been conducted which describes how screws affect steel belts when coming into contact with them during the operation of a radial medium truck tire?

A. You know, I preface this by, you know, punctures tend to be treated by tire companies as road hazard and not their problem. So I haven't seen any tire companies publishing any kind of studies about punctures at all.

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Q. How about the Department of Transportation, have they done any studies into that?

A. No, sir.

Q. Have they performed any defect investigations concerning how a screw's puncture affects steel-belt packages in radial medium truck tires?

MR. POLLAK: Objection. You can answer.

A. No, sir.

Q. In fact, not just the tire companies but you, yourself, on numerous occasions have described a puncture by a screw as a road hazard. Isn't that correct?

MR. POLLAK: Objection. You can answer.

A. That's correct.

Q. And you on many occasions have described a puncture by a screw as an environmental factor. Isn't that correct?

A. It's a road hazard. I don't know whether I would describe it as an environmental hazard, but it is a road hazard.

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Q. Are you denying that you referred to it as an environmental factor in numerous prior depositions?

MR. POLLAK: Objection. You can answer.

A. If I described it as an environmental factor, I'll stand by that, sure.

Q. And what is an environmental factor?

A. Well, I would, I would basically think of an environmental factor as ozone, as something associated with the environment, rather than something associated with things lying on the road. But, you know, I guess you could consider it part of the environment. I mean, the tire is operating over a road and there you go.

Q. And an environmental factor is one that is out of the control of a manufacturer of the tire, is that correct?

MR. POLLAK: Objection to the form. You can answer.

A. Well, yes and no. I mean, tires

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need to be built to deal with the hazards that are in the field, and any tire manufacturer should be looking at how tires are failing. And if they see an increase in that rate at which they are failing, then you would expect them to be concerned about it. Because, again, they don't have control over the state of the roads or the hazards they are in.

Q. Is any tire puncture-proof as far as you know, any radial medium truck tire or tire used for commercial bus operation?

MR. POLLAK: Objection to the form. You can answer.

A. There will always be some level of puncturing entity and some -- some level of energy and some puncturing entity that can puncture a pneumatic tire. There are lots of tire designs that you can puncture and they don't affect the operation of the tire, but a pneumatic tire like we are talking about here, there is always going to be something that can puncture it.

Q. Puncture it through the tread and through the inner liner, correct?

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A. That's correct.
Q. And many punctures occur which have nothing to do with a defective condition of the tire, is that correct?
In other words, would you say that any time a radial medium truck tire is punctured that that means that tire is defective?
A. No, sir.
Q. So in other words punctures occur that have absolutely nothing to do with a defect in the design and manufacture of the tire?
A. That's not what I said. What I said was that there was an energy level at which a tire, any tire can be punctured. And a tire by its design, should be able to deal with a majority of the entities that it finds.
So there is going to be big ones that will puncture any tire, but there are going to be little ones that shouldn't puncture every tire.
Q. If a screw or a nail punctures a tire, does that mean that that tire is

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defective?
MR. POLLAK: Objection: asked and answered. Objection to the form. You can answer.
A. I think that depends on how the tire's been built, what kind of changes have been made in it, what sorts of -- and as NHTSA would do, what kind of failure rates you are seeing from road hazard.
Q. If a G-409 tire is punctured, does that mean that that tire was defectively designed or manufactured?
MR. POLLAK: Objection to the form. Asked and answered. You can answer.
A. What it means is that the G-409 tire encountered a puncturing entity which had the size and energy required to puncture it.
Q. And what I'm asking you is, would you conclude in all instances that the tire encountered that type of situation, that the tire was defective in design or manufacturing?
MR. POLLAK: Objection to form and asked and answered. You can answer.

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A. The specification C-3, going from C-2 to C-3, constitutes a design defect. Whether it actually causes the failure of a tire, depends on the puncture -- on the puncture.
Q. Well, let me break that down. Are you saying that any time a C-3 G-409 tire is punctured, that it necessarily follows that that puncture resulted because of a design or manufacturing defect in that tire?
MR. POLLAK: Objection. You can answer.
A. I'm saying that the design defect in that tire made it more probable that the tire will be punctured. That is a lower energy puncturing event.
Q. What I'm asking you -- listen to my question. A C-3 G-409 tire, are you saying that every time that tire is punctured, that it's the result of a manufacturing or design defect?
MR. POLLAK: Objection to the form. Asked and answered. You can answer.

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A. The question of the defect is constant. The question of whether it causes the tire to fail, depends on how it is punctured.
Q. Well, there is a question of a defect, and there is a question of whether or not the defect is causally related to a particular puncture.
And what I'm asking you is, just because a C-3 G-409 tire is punctured, doesn't mean that that tire is manufactured or designed defectively. Is that correct?
MR. POLLAK: Objection to the form. Objection: asked and answered. Over objection, you can answer again.
A. No, it's not. You know, this is very similar --
Q. It is not correct, is that what you are saying?
A. It is not correct.
Q. Right. So in other words a G-409 tire manufactured to the C-3 specification, can suffer a puncture which is not caused by any design or manufacturing defect?

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A. No. What I --
Q. That's what I'm asking you.
A. Well, just, okay.
Q. I want you to answer my question.
A. I don't understand your question, then. Because, you know, just because a tire has a defect, doesn't mean that it fails because of that defect. I think we are all -- everybody understands that part of it.
Q. That's right.
A. That is something that NHTSA clearly believes and has used in many different defect analyses.
Q. And now what I'm asking you is, just because a C-3 G-409 tire sustains a puncture, that doesn't mean that the puncture was caused as a result of a particular design or manufacturing defect in the tire?
MR. POLLAK: Objection: asked and answered. Also the form. You can answer.
A. Okay, again, I don't understand the question. I mean, that's like -- that's like, you know, if we go back to a Wilderness

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AT type example. Firestone made a change in the wedge product of the tire. Just because the tire failed, didn't mean that the wedge had anything to do with the tire failure. But all of those tires were defective according to NHTSA.
Q. Right. But I'm asking you, and let me try to make it clear, just because a G-409 C-3 tire is punctured, regardless of what your theories are regarding whether or not there is a defect existing in the G-409 C-3 tire, does it necessarily imply that any puncture sustained by the G-409 C-3 tire was as a result or because of that design defect?
MR. POLLAK: Objection to the form. Asked and answered. Over objection, you can answer.
A. Well, I think I said before that there is always going to be a puncture energy or puncturing entity that will puncture any tire.
Q. Right. But you are not answering the question I'm asking you.
A. Change it.

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Q. If I've got a hundred punctures to G-409 C-3 tires, does it necessarily follow that all of those 100 punctures occurred because the G-409 C-3 tire is defective?
MR. POLLAK: Objection: asked and answered. You can answer.
A. That question cannot be answered in a vacuum. That question can only be answered relative to the C-2 tires and the difference between their puncture rates.
Q. I'm not asking you to compare a C-2 and a C-3. The same way I'm not asking you right now to compare a four-belted G-409 tire with a three-belted G-409 tire.
I'm asking you simply if you have a G-409 C-3 tire, isn't it possible that it can be punctured and that the mechanism causing the puncture is not causally related to any design defect in the tire?
MR. POLLAK: Objection: asked and answered. You can answer.
A. I'm trying to think of how I can answer your question without getting the same question back again.

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As I said, you know, you can puncture a tire having -- with sufficient energy, so, you know, if I walk up to a tire with a nail gun, you know, and it is belt like a normal tire, you can shoot the nail through the tire. There is always sufficient -- there is always a case where sufficient energy can puncture the tire.
The question is, when you present the tire with the range of random occurrences on the highway, how many of those tires that are in service will be punctured versus some other design. Everything in the tire industry is evolutionary by definition. You look at what you do in one design, you compare that with what you do in another design, and that is the only way to make such an assessment.
Q. A properly manufactured and designed tire can be caused to puncture, is that correct?
A. You can always come up with a way to puncture a tire, a pneumatic tire.
Q. And would you say that properly manufactured and designed tires can be

punctured as a result of a screw on a road surface?

MR. POLLAK: Objection: asked and answered. You can answer.

A. Again, there are always scenarios by which you can generate sufficient energy to puncture a tire, be it by a screw or a nail or whatever.

Q. And it has nothing to do with whether or not the tire is defective or not, is that correct?

MR. POLLAK: Objection. You can answer.

A. The tire -- again, with sufficient energy, I can puncture any tire. Any tire. With sufficient energy.

Q. And it doesn't mean that that tire is defective, correct?

MR. POLLAK: Objection. You can answer.

A. I can puncture any tire with sufficient energy. Any tire.

Q. And that does not mean that the tire that you might puncture is defective,

correct?

MR. POLLAK: Objection. You can answer.

A. It doesn't mean that it is not defective. It is not a, you know, if you don't get punctured, you are not defective, or if you get punctured, you are not defective. It doesn't mean that at all.

Q. And it doesn't mean you are defective?

A. It's a non-conclusion.

Q. And it doesn't mean you are defective, is that correct?

MR. POLLAK: Objection.

Q. Is there a reason why you are not answering the question the way I'm phrasing it and are flipping it around every time I ask it?

MR. POLLAK: Objection to the form of the question. Go ahead.

A. I'm answering the question I think you are asking me, and I'm answering to the best of my ability.

Q. I think you are smarter than

that --

A. I'm struggling --

Q. -- and I think you are avoiding to answer the question in the way that I'm asking it.

A. Well, that's your opinion. I have my opinion. You have yours.

Q. Are you saying that if a C-3 409 tire is punctured by a screw on a roadway, that in all instances that puncture would have occurred because that tire is defective?

MR. POLLAK: Objection. You can answer.

A. No. What I'm saying is that the tire would be more likely to be punctured by some energy level than a C-2 tire.

Q. Now, would a three-belt retread tire be more likely to be punctured than the same model tire that had four belts?

MR. POLLAK: Objection. You can answer.

A. I believe that's true.

Q. Does that mean that the three-belted retread tire is defective?

A. It means it is subject to more punctures, but since it occurs in dual tire applications, it is certainly not a safety issue.

Q. Is the C-3 tire defective merely because it might have a higher puncture frequency than the C-2 G-409 tire?

MR. POLLAK: Objection to the form. You can answer.

A. Yes, it is.

Q. Defective?

A. Defective.

Q. Did you compare the puncture frequencies of the C-3 G-409 tire and C-2 G-409 tire with any other radial medium truck tires and radial medium truck tires that are used for commercial bus service?

A. Yes, I did.

Q. Which tires did you compare them to?

A. One of the Michelin tires that was used to replace these tires. As my analysis shows, the puncture rate went from around 1 per million steer tire miles. After the C-3

change, it went up to around 4. And then when the tires were replaced by Michelin tires, it went back down to 1.

Q. Again, this is, you are referring to that 1852-page maintenance desk report?

A. That's correct.

Q. What I'm asking you is, did you do any specific puncture studies comparing puncture frequencies between the C-3 G-409, the C-2 G-409 and any other tire?

MR. POLLAK: Objection to form. You can answer.

A. No, sir.

Q. Do you know the puncture rate of any radial medium truck tires that are used in long-haul service or commercial bus service that have been manufactured by Continental?

A. No, sir.

Q. Have you compared their puncture frequency with the G-409, either C-2 or C-3?

A. No, sir.

Q. Have you compared the puncture resistance frequency or puncture frequency of Firestone radial medium truck tires and

commercial bus tires with any version of the Goodyear G-409 tire?

A. No, sir.

Q. What other manufacturers make radial medium truck tires?

A. Many different manufacturers. I think every manufacturer that makes tires, makes medium radial truck tires.

Q. And do those manufacturers also make tires, radial medium truck tires that are used for commercial bus application?

A. I don't know the answer to that question. I think some of the small players may not. Like Tornel in Mexico, for example, may not make bus tires.

Q. But all of the major manufacturers make such bus tires, correct?

A. That's correct. Whether they make 315/80R 22-1/2 I don't know.

Q. And again, have you done any comparative studies specifically looking for the puncture frequency between all of those manufacturers' radial medium truck tires and commercial bus tires in terms of their

puncture frequency with the Goodyear G-409 tire of any specification, including the C-2 or C-3?

A. No, sir. That can't be done.

Q. Well, is there any basis for you to say that any of those manufacturers' tires are or do have puncture frequencies that are greater or lower than the G-409 tire?

MR. POLLAK: Objection to the form. You can answer.

A. All I can tell you is that the Michelin tire that replaced the G-409, has a lower puncture frequency than the C-3 version of this tire.

Q. Well, that's not based on a puncture frequency test, is it?

MR. POLLAK: Objection to form. You can answer.

A. Sure it is. It is the exposure of a population of tires to the random puncturing events on the highway over a long period of time.

Q. Again, you are just referring to the 1852-page maintenance desk report,

correct?

A. There is no other data, so, yes.

Q. So that's the only thing. So what I'm saying to you is, can you say one way or another whether or not any manufacturer's tire has a greater or lower puncture frequency in terms of radial medium truck tires and radial medium truck tires used in commercial bus applications, than any version of the G-409 tire?

MR. POLLAK: Objection. Objection: asked and answered. You can answer it again.

A. Again, you know, other than the study I did with the data I had, I know of no other such data.

Q. And that would mean that you know of no articles or industry publications or journals or anything that's peer-reviewed which would compare the frequency of punctures between radial medium truck tires and radial medium truck tires used on commercial buses between any of the manufacturers?

A. That's correct.

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J.W. DAWS

Q. Now, you have said in depositions that if a tire was defective, you would expect thousands and thousands and thousands of similar failures. Is that correct?

MR. POLLAK: Objection to the form of the question. You can answer.

A. You would certainly expect a large number. I mean, a defective, you know, a defective tire depending on how it is defective, I think that commentary had to do with Wilderness, you know, radial ATX2 and Wilderness AT where there were, what, 16 to 20 million tires in service. You would expect thousands, certainly thousands and thousands of failures, yes.

Now, again, the failure rate is typically in percentages. When you start getting above a percentage, a percent of tires that are failing for a given reason, then there is cause for concern.

Q. Now, is there any precise data which says what the percentage of Greyhound tires were that were failing as a result of punctures.

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MR. POLLAK: Can you repeat the question, please.

(Record read.)

MR. POLLAK: Objection to the form. You can answer.

A. Again, I think the maintenance response desk data is the best data out there.

Q. Best or only data that you are referring to?

A. Well, I'm sure Goodyear had data, but they never produced it to us, so there you go.

Q. Well, you don't know that any such data like that exists, do you?

A. Well, they are taking back every single tire that comes. Why wouldn't they have that data?

Q. The question is do you know whether or not Goodyear has such data?

A. If they don't have that data, then they are totally remiss in their responsibility as a tire maker.

Q. Well, does Greyhound have that data?

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A. No, Greyhound won't have that data.

Q. And Greyhound has no responsibility for the safety of their passengers?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Greyhound has maintenance response data that says, hey, these tires failed for these reasons.

Q. In the 1852 pages -- have you read all those pages by the way?

A. Yes, I have.

Q. How many times does the word puncture appear?

A. I couldn't tell you.

Q. How about once?

A. All right.

Q. Is that a report that seeks to determine what the puncture rate was in tires that were used on Greyhound buses?

A. No, that's a report that covers basically all the times service had to be provided in normal operation.

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Q. Do you think if Greyhound, acting as a responsible commercial carrier of passengers, was experiencing a puncture problem with the tires that were on its buses, that it should have done something about it?

MR. POLLAK: Objection to the form of the question.

A. I'm not sure what Greyhound could do about it. You know, Goodyear certainly participates in those maintenance reviews, and, you know, when large percentages of tires are failing in steer axle service, you would think they would be looking into the cause. And in fact they said they were looking into the cause.

Q. And did anybody to your knowledge ever conclude that steer axle failures were occurring in disproportionate numbers because they were being punctured?

A. Well, certainly --

Q. That's a yes or a no.

A. Well, wait a minute.

MR. POLLAK: Objection to the form of the question. You can answer over

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objection.
A. Flats and, you know, flats and -- let me see what the other category was.
Flats and leaks represented together, represented certainly the largest percentage of all the -- of all the failures.
Q. Flats? I didn't hear the word puncture there.
A. Well, what is the most likely cause of a flat? It is a puncture.
Q. Well, is that what Greyhound employees and engineers have said?
MR. POLLAK: Objection to the form of the question. You can answer.
A. I don't have any idea what Greyhound employees have said.
Q. Well, let me ask you this. You have been involved with this case for quite some time, correct?
A. That's correct.
Q. Over three years?
A. Yes, sir.
Q. Have you ever encountered any documents prepared by Greyhound employees in

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their regular course of business where they indicated that they were concerned because of a high puncture rate of Goodyear G-409 tires?
A. I don't recall.
Q. That is something you would recall, I assume, if you had encountered it, correct?
MR. POLLAK: Objection. You can answer it.
A. It's possible. Again, I don't have all of Greyhound's data, you know, I don't have all of Greyhound's paperwork, presentations.
Q. Oh, is there a reason why Greyhound might withhold information like that from you, their tire expert in this litigation?
MR. POLLAK: Note my objection to the form. You can answer.
A. I have no idea.
Q. Do you know what a risk manager is?
A. Not really.
Q. Somebody who manages risk?

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A. That's what the title says. Again, I've never been a risk manager. I don't have any idea really what a risk manager would do.
Q. Well, just from your own experience, what do you think a risk manager does?
MR. POLLAK: Just note my objection. You can answer.
A. Again, I've never been a risk manager. I don't even know -- I've never worked in a company that had a risk manager that I know of.
Q. Michelin didn't have risk managers?
A. The department managers associated with tire design and testing and so on, handled that function as far as I know.
Q. Would you think that a common carrier such as Greyhound has that type of position in its organization?
MR. POLLAK: Just note my objection. You can answer.
A. Again, I don't know what a risk

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manager does. I don't know.
Q. Well, would you think it is important for somebody at Greyhound to examine trends in terms of how accidents occur or how failures occur in their buses?
MR. POLLAK: Objection to the form of the question. You can answer.
A. Well, again, you know, analysis like that is typically done on the basis of Pareto, where you deal with the big ones first, you deal with the ones that cause you the most, cause you the most issues and you work towards smaller ones.
Q. Would you say that a puncture problem on tires that are being used on its buses, would be a big concern of Greyhound's, or a little concern of Greyhound's?
MR. POLLAK: Objection to the form of the question. You can answer.
A. Well, I mean, if you look at, if you look at the data for steer axles, you know, there were, what did we say, 1800 total record, 1800 pages, five records to a page, so they were pushing 10,000 records.

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Q. Yes.
A. Right, in that, and those were tire issues only of which steer axle, you know, flats and leaks represented around 800.
Q. Well, let me ask you something. Was Greyhound just collecting that data, or were they collecting and analyzing that data?
MR. POLLAK: Just note my objection. You can answer.
A. Don't know. I mean, certainly they collected because it represents issues. Now, I don't know what the overall Pareto of that looked like.
Q. It represents issues, meaning that if you examine the data, you try to find patterns and see if there is any specific type of failure modes that you need to be concerned with. Isn't that correct?
MR. POLLAK: Note my objection. You can answer.
A. That's one way you can use the data, sure.
Q. Well, why else would you need the data. What does it matter if you have a

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record of a flat tire occurring in Illinois on a certain date in 2003, if not to see if there is some type of cumulative pattern that you can tie that incident to?
MR. POLLAK: Objection to the form. You can answer it.
A. They may use to assess what they are spending and who they are spending it with in terms of service calls, for all I know.
Q. Well, exactly. So with Greyhound they not only should be concerned about passenger safety, but they want to know if they are getting their bang for their buck with the tires that they are leasing from Goodyear. Isn't that right?
MR. POLLAK: Objection to the form of the question. You can answer.
A. I would suspect so, yeah.
Q. Now, did you ever see any analysis or any study done in the normal course of business by any Greyhound employee where they used that data from the maintenance desk and concluded that there was anything wrong with the puncture rates of the G-409 tires?

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MR. POLLAK: Objection: asked and answered. You can answer.
A. Again, the only kind of analysis I have seen like that was overall failure rates.
MR. KAPLAN: Could you read back that last question, please. I don't know if I got an answer to that.
(Record read.)
Q. Could you answer that question, sir?
A. No.
Q. The answer is no?
A. The answer is no, and -- yes, I can answer the question. No -- the answer is no. Okay.
Q. Okay.
Did you review the deposition testimony of Alvin Ross taken June 5th, 2007?
A. No, sir, that does not ring any bells, but let me just check.
MR. POLLAK: Can we take a break at 12:30?
MR. KAPLAN: Yeah, that will be fine.

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MR. POLLAK: Or sooner if you want to.
THE VIDEOGRAPHER: The tape ends in 20 minutes.
MR. KAPLAN: Perfect.
I'm sorry, could you please, for the witness's convenience, read the last question.
(Record read.)
A. No, I did not.
Q. I'm going to represent to you that Mr. Ross was the national manager of maintenance for Greyhound. And I'm also going to represent to you that he said that he had no knowledge, one way or another, whether or not there were any particular problems, defects or anomalies regarding the Goodyear G-409 tires. Does that surprise you?
MR. POLLAK: Objection to the form of the question. You can answer.
A. Not necessarily, no.
Q. I'm going to also represent to you that as national manager of maintenance, Mr. Ross never received any memos, correspondence,

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e-mails or communications of any kind regarding potential delamination or detreading issues with Goodyear tires. Does that surprise you?

MR. POLLAK: Objection to the form. You can answer.

A. No, sir, it does not.

Q. Have you reviewed the deposition testimony of Mario Nava which was taken on March 12, 2010?

A. Yes, I have.

Q. And he was --

A. Wait a minute, let me just check the date. I don't know whether there was a second deposition or something.

March 12, 2010.

Q. Yes.

A. Yes.

Q. And Mr. Nava was the director of maintenance engineering for the Greyhound bus lines. Do you recall that?

A. Yes.

Q. And do you also recall that Mr. Nava said that he never knew of any red flag

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or safety problems with the G-409 tire?

A. I recall him saying that Goodyear did all the failure analysis of the tires, and he got no feedback saying there was a problem, so.

Q. Well, he was the liaison with Goodyear, is that right?

MR. POLLAK: Objection, you can answer.

A. As far as I know, yes.

Q. So if Greyhound had any issues with the Goodyear tires, he would have reported them to Goodyear. Isn't that right?

MR. POLLAK: Objection. You can answer.

A. One would think.

Q. And isn't it fair to say that during the course of the time that he worked at Greyhound, he never heard any problems regarding the G-409 in terms of their being susceptible to being punctured?

A. If you represent to me that's what he said, that's fine. I don't have that in my summaries.

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Q. Okay. I represent to you that that's what was said. Are you surprised to hear that?

MR. POLLAK: Objection to the form. You can answer.

A. Not necessarily, no.

Q. I'm going to represent --

A. Mr. Nava, his tenure ended in early 2006. So the first round of the C-3 tires would have made there -- you know, basically the summer of 2005 was the first year that we really saw.

Q. Wasn't it the summer of 2004? Wasn't the C-3 revision July of 2004?

A. July of 2004, but it takes about a year, you know, 14 months or so for the tires to make -- to fill up the fleet.

Q. And we are well after the 14-month period, aren't we now, by the time Mr. Nava left?

A. By a few months, yeah.

Q. And Mr. Nava also said, and I will represent to you, that he was never aware of any safety issues with the G-409 tires. Would

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that surprise you?

MR. POLLAK: Objection to the form. You can answer.

A. Again, no.

Q. Okay. How about the testimony of Mr. Richard E. James: did you read that testimony? That was taken recently, August 10, 2010.

A. Then I probably didn't, but let me just check.

No, sir.

Q. Let me represent to you that Mr. James has worked for Greyhound continuously from 1991 to the present. So he would have been there through the whole time period that the G-409 tire, and specifically the C-3 G-409 tire was being used. Okay?

A. Okay.

Q. And let me also represent to you that Mr. James was at various times the manager of quality assurance at Greyhound, he was the national manager, he was the garage manager at the Dallas facility.

Would it surprise you if I told

you that Mr. James said that he never heard of any puncture-related issues regarding the Goodyear G-409 tire?

MR. POLLAK: Objection to form. You can answer.

A. Again, not necessarily, no.

Q. Would it surprise you if Mr. James said it was not a concern at Greyhound that G-409 tires were experiencing a greater number of punctures than anticipated because that wasn't happening?

MR. POLLAK: Objection to the form. You can answer.

Q. Would that surprise you?

A. That would surprise me, yes.

Q. Would it surprise you if Mr. James was asked "Did anybody ever tell you while you were at Greyhound, or did you ever learn at Greyhound, that puncture rates on G-409 tires were considered a safety concern?" and his answer was "no"?

MR. POLLAK: Objection to the form.

A. That would not surprise me, no.

Q. Would it surprise you if Mr. James was asked if anybody had ever told him that the G-409 tire was unsafe and he said no?

MR. POLLAK: Objection to the form. You can answer.

A. That would not surprise me, no.

Q. So, apparently, none of these three high ranking Greyhound individuals who gave sworn testimony had any concern or any knowledge about an increased puncture rate in G-409 tires after the C-3 revision went into effect. Is that it correct?

MR. POLLAK: Objection. You can answer it.

A. Well, remember that Greyhound knew absolutely nothing about the C-3 change, that was one of those under the table, let's make this change and continue to supply product. Greyhound had absolutely no understanding that the tire had changed.

MR. KAPLAN: Why don't I have the reporter reread that question because I don't think you heard it correctly because that's not the question that I

asked you.

Could you please reread the question.

(Record read.)

MR. POLLAK: And note my objection to the question. You can answer.

A. So none of them had any knowledge of the C-3 change, so they couldn't have --

Q. No, that's not what I'm asking. Clearly in the question --

MR. POLLAK: You want to let him finish the answer. You can do what you want, but let him finish his answer.

A. Then you need to ask me the question that says did they have any problems with puncture resistance in the tires, period. Because if you ask me knowledge of puncture resistance after C-3 then they have to know something about C-3. Otherwise, they are blind to it.

Q. No, at any time period. At any time period. Did any of these Greyhound individuals indicate that at any time period they considered the G-409 tire to have a

puncturability problem?

MR. POLLAK: Objection. Over objection, you can answer.

A. No, they did not.

MR. KAPLAN: Why don't we take a break now.

MR. POLLAK: Sure.

THE VIDEOGRAPHER: We are now going off the record, 12:14 p.m. This is the end of tape No. 2.

(Lunch recess: 12:14 p.m.)

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AFTERNOON SESSION
1:18 p.m.
THE VIDEOGRAPHER: This is the beginning of tape No. 3 in the Daws deposition. We are going back on the record at approximately 1:18 p.m.
JOHN WILLIAM DAWS,
having been previously duly sworn, was examined and testified further as follows:
CONTINUED EXAMINATION
BY MR. KAPLAN:
Q. Good afternoon. Prior to coming to this deposition today, were you shown a deposition notice?
A. Yes, I was.
Q. And did you bring with you your file materials that you've collected and accumulated in this case?
A. Yes, I did. All my file materials, with the exception -- let's see. Yeah, all my file materials. The only thing I didn't bring was my billings. Client said I didn't have to produce those.

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Q. Just for our purposes I want to mark everything. So if you could show me what would be the best way to divide up everything into exhibits.
I see there are two folders, and then we have a bunch of loose velobind -- what are they called?
MR. POLLAK: Hanging folders.
Q. Why don't we do it step by step then.
A. Okay.
Q. Why don't we mark this as Daws Exhibit 1.
A. These two binders represent what I call my deposition binder. They have the stuff that I want to refer to or may need to refer to, to support my opinions. All that material is in these two binders.
Q. Could you just tell me generally, what's in there is one black binder and one that looks like it is a grayish?
A. They are both black binders but one of them, volume I -- there is a table of contents for each binder. So this one has my

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CV, my testimony list, list of materials that I was provided, case information sheet which is kind of how I keep track of what's going on in a case, correspondence with my client, both paper and e-mail. The caveat for e-mail is my system dumps it after 45 days, so, you know, if it is older than that when I put this binder together, so this section right here is e-mail.
Q. Okay.
A. Okay. And then the tire inspection summary, my tire inspection notes, photograph thumbnails of all the photographs, the evidence log for the case, my initial report, the text of it, you know, my leak rate estimate, the x-rays, front tire wear documents, construction analysis that I did, penetration reference, some of the penetration references, steer axle flat rate analysis, Tire and Rim Association recommendations, bus route maps for the various places the bus went and a presentation on tire findings.
MR. KAPLAN: Okay. Why don't we refer to that as Daws 1A.

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(Daws Exhibit 1A, black binder, Volume I Daws Engineering deposition binder marked for identification, as of this date.)
Q. And then why don't you tell us what is in the other binder which we will refer to as Daws 1B.
A. So this binder has in it, which is volume II of my deposition binder, has in it the text of my responsive report, TPMS data, deposition summaries prepared by my office, the rebuttal report text, photograph of skim polishing data from other G-409 inspections that I have done, some plots that I made from Mr. Parson's leak test data and other data about the left front tire.
(Daws Exhibit 1B, black binder Volume II Daws Engineering deposition binder marked for identification, as of this date.)
MR. KAPLAN: Mr. Pollak, are we being provided with copies of the materials that are in both of those binders?

MR. POLLAK: We have CDs that contain that, correct.

A. We have, basically everything on the table here is on a DVD.

MR. POLLAK: DVD.

A. Along with all my original photographs.

Q. Okay.

A. So these binders and all contain thumbnails. This has everything.

Q. Okay.

A. What's not on these DVDs, is the stuff here that's in paper.

Q. Okay. And what do we have here that's in paper?

A. Well, I guess the other things not on the DVDs is, this is a set of 15 or so CDs that was provided from Jim Dixon's files. They look to be the same -- they look to be inclusive of stuff that I had been provided. So I really never even looked at them.

MR. KAPLAN: Just to interrupt one second.

Kevin, are those the same

documents that Greyhound previously produced as the Dixon production?

MR. POLLAK: The CDs that were just referred to, yes.

MR. KAPLAN: Okay, thank you.

A. Then this CD has photographs and notes from earlier inspections which is on here. This CD has my photographs and notes from Elizabethtown which is also on here. This has police photographs which is not on there. This one has Goodyear's production in this case. This one has a video of the Topeka dream tire spray post in Topeka. This one has additional documents produced by Goodyear. This one has the Transcon CSI report materials. This one has the maintenance response desk data. And this one has the plaintiff depositions.

Q. And what's in this hard copy pile?

A. Basically, these are just -- well, this is the deposition notice. The chairman's factual report, and -- one of these should be the operational report.

MR. POLLAK: I probably mixed that

up.

A. Okay, the NTSB reports associated with this case. And then these are just documents that I printed out from these other CDs and whatnot, you know, that were interesting to me in the course of everything and they were in my file. I brought them with me.

MR. POLLAK: Just for the record, when I was looking through his file, I probably just misplaced and took the operational report. If you want to put it in his file, that's fine, it belongs in there.

MR. KAPLAN: Okay.

MR. POLLAK: I had two copies. I have both copies. Here is your operational. I'll take back the factual.

A. And, for example, this stack of depositions here are ones that never got scanned. You know, I received the plaintiff ones electronically. I received some of the expert ones electronically. So they are on

the CD.

Q. At present do you have any plans to perform any further investigation or testing relative to your services in this case?

A. No plans at this point.

Q. Okay. When were you first retained to do work for Greyhound in this case, and when I say this case, I'm talking about the caption matter that we are here regarding today?

A. I think in March of 2007.

Q. And do you recall what the circumstances were of your being retained? Was it a phone call, a letter?

A. I had a couple of phone calls from Mr. Pollak here and I received an e-mail from him which is in the binder here that says you've been retained.

At that point we hadn't, to my recollection we really hadn't talked much about the Elizabethtown matter. We talked about my qualifications and so on and then went on from there.

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Q. Had you heard about the Elizabethtown matter before having your initial discussions with Greyhound's counsel in March of 2007?

A. I had not.

Q. Had you spoken with any other individuals who were not affiliated with Greyhound as far as you know about the Elizabethtown accident prior to March of 2007?

A. No, I had not.

Q. Were you in any way involved with an investigation performed by the NTSB regarding the Elizabethtown accident prior to March of 2007?

A. No, sir.

Q. Were you ever involved with any aspects of the NTSB investigation which may have occurred after March of 2007 regarding the Elizabethtown accident?

A. Other than looking at tires that may or may not have wound up in the NTSB's testing, because I looked at tires in Dallas, I looked at tires in Louisville, and my understanding is some of those tires wound up

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in the NTSB's testing, but other than looking at the tires pretest, no.

Q. Maybe I didn't ask the question properly. I'm just curious to see if you were asked to be involved with any of the operations tests or investigation performed by the NTSB regarding the Elizabethtown accident?

A. I was not.

Q. From the first time that you were retained in this matter and until the present, I presume you have sent invoices to Greyhound?

A. I have.

Q. And what is the total amount in terms of dollars that you have billed Greyhound for your services since first being retained by Greyhound in March of 2007?

A. That's a really confusing issue because there was another case. Shortly after I did some initial tire work, there was another case involving an accident in Alabama and we wound up billing a lot of that work on Elizabethtown, and a lot of Elizabethtown on that work. And I think in total, I think I have probably billed $150,000 over 3-1/2

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years.

Q. And in fact, one of the first things you were asked to do after you were retained by Greyhound in this case, was to examine the tire or tires that were on the bus involved in the Opelika, Alabama accident, isn't that correct?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That was one of the tires that I was asked to look at in Louisville, but I, at that time I really wasn't aware there was -- you know, that it was going to be any kind of a legal matter. It was just, I was looking at a lot of different tires.

Q. Well, when you say a lot of different tires, are you talking about G-409s?

A. G-409s. I looked at the tires, you know, that were in the Dallas depot, I looked at failed tires in Dallas depot, I mean I looked at worn-out tires, I looked at failed tires and I went to Louisville and I did the same thing.

This was one of the -- the Opelika

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tire was one of the failed tires.

Q. Other than worn-out and failed tires, did you look at any tires that were taken out of service for your inspection?

A. You mean that I asked to be removed from service?

Q. Whether you asked for them to be removed or Greyhound offered to show you them.

A. Well, in the Dallas depot and one of the pictures I have shows there are bunches of tires stacked along the wall, and I just randomly picked, you know, a dozen or so of them to look at.

Q. Now, the tires that you picked, were those tires that had already been removed from service because of either a failure mode or because they had worn out?

A. The tires that I looked at, some of them were worn out, some of them were, you know, probably waiting to go on a tag axle or something like that, and others of them -- there were some failed tires that they wanted me to look at as well.

Q. So Greyhound directed you to what

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tires they wanted you to look at?
A. Well, they directed me to the failed fires. There was a stack of failed tires. And so I looked at those. There were also -- and then there were these other tires and I just pulled some at random and looked at them because I wanted to get a baseline. I wanted to understand kind of what do these tires look like normally.
Q. These other tires that you say you looked at, where were they? Was this at Louisville or was it at Dallas?
A. No, Dallas depot.
Q. And were those tires that anyone asked you to look at first or were those tires that you said, hey, I'd like to take a look at those tires over there?
A. I just asked to look at some of the tires, you know, some of the tires, some of the representative tires, it is always helpful to look at tires intact before you start looking at a failed tire.
Q. Was it your understanding that those tires were going to be taken out of

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service permanently, or that some of them were going to go back into service?
A. I didn't really have any understanding about that. I just pulled some of the tires and looked at them.
Q. Approximately how many tires did you look at in the group that did not involve the failed tires?
A. Maybe a dozen or so.
Q. And how many of the failed tires did you look at?
A. Maybe 8 or 10. I didn't -- the actual listing of them is --
Q. That was in one of your attachments to your report, correct?
A. Yes.
Q. And you also looked at eight tires that had been on the Opelika bus, is that correct, or only the accident tire involved from the Opelika incident?
A. I looked at the accident tire. I also saw the bus, looked at some of the tread depths and wear patterns on that.
Q. Now, am I correct in saying that

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the only other report that you prepared regarding a G-409 tire was the one from the Opelika incident, other than the tire that's involved in this case?
A. Well, there were three reports in this case and I think there were, I think there were two reports in Opelika, I don't know.
Q. Well, what I mean to say is, there was one tire that you wrote about in the Elizabethtown accident.
A. Right.
Q. There was another tire you wrote about that was in the Opelika accident.
A. That's correct.
Q. Have you written reports used for litigation regarding any other G-409 tires?
A. No, sir.
Q. And other than inspection notes, did you prepare any reports or come up with any opinions regarding the manufacture or design of G-409 tires other than the two that we just mentioned?
MR. POLLAK: Objection to the form

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of the question. You can answer.
A. No, sir.
Q. In the Opelika case, did you opine that -- by the way, that was a steer tire that had suffered a tread separation, correct?
A. Tread separation, yes.
Q. Did you opine in that case that that tire had been overloaded?
A. No. The tire had a manufacturing defect in my opinion, an open inner liner joint which led to the demise of the tire. So whether the tire was loaded at its limit or slightly beyond, really didn't make a whole lot of difference with that defect.
Q. But you didn't conclude in that report that the tire had been subject to overload conditions. Is that correct?
A. That's correct.
Q. And that tire did not involve a puncture, is that correct?
A. That's correct.
Q. And approximately how many hours would you say that you devoted to the work

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that you performed in this case for Greyhound? And that again would include the Opelika, Greyhound and Elizabethtown Greyhound incidents.

A. I don't know. I mean, you have billing records there, so.

Q. I don't know if I have all the billing records.

A. You probably don't. Like I say, those were produced I'm sure in Opelika so that was, you know, some time last year.

Q. Do you know who, do you recall who you billed, you sent your invoices to at Greyhound?

A. I was asked to send my invoices to Mr. Pollak and Mr. Dixon.

Q. And who is Mr. Dixon?

A. He's the guy at Greyhound that gets my bills paid.

Q. Is he a risk manager?

A. Could be. He's the guy that gets my bills paid. When I have a problem getting a bill paid, I call him.

Q. You don't call Mr. Pollak first?

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A. No.

Q. And have you discussed the case at all with Mr. Dixon other than the times when your bill has not been paid?

A. Nope. I've only talked to Mr. Dixon twice about bills and that's it. I haven't talked to him about the case at all.

Q. What Greyhound employees over the last 3-1/2 years have you spoken with regarding the Elizabethtown accident?

MR. POLLAK: Objection to the form. You can answer.

A. Specifically regarding the Elizabethtown accident?

Q. Correct. Let me expand it then. Elizabethtown accident and the Goodyear G-409 tire in particular?

A. Alex Cook is the only one that comes to mind. And like I say, I don't believe I talked to him about the Elizabethtown tire at all.

Q. Which tire did you talk to Mr. Cook about?

A. We talked about the G-409 in

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general.

Q. Anybody else?

A. Not that I recall.

Q. Did you talk to any mechanics at Greyhound?

A. No.

Q. Did you ever speak with any drivers at Greyhound?

A. No.

Q. Did you ever speak with any maintenance managers at Greyhound?

A. When I went to Louisville, I introduced myself to the service manager, you know, to the maintenance manager in Louisville. And I cannot recall his name to save myself.

Q. But other than to exchange pleasantries, there was no substantive conversation?

A. Other than to introduce myself, ask him where -- you know, there were certain things that I wanted to look at, so where were they. So find somebody to take me around and help me find these things. And one of the

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things that I did was remove the tire from the Opelika bus and dismounted it. So I needed somebody to do that while I videotaped it.

Q. Did you speak with any of the garage managers at Greyhound?

A. No, I did not.

Q. Did you speak with anybody at Greyhound who made policy regarding how maintenance was to be performed by Greyhound employees or third-party contractors?

A. No, sir. I was not asked to look into Greyhound practices and so on. It is just not part of what I was doing.

Q. Did you speak to any people at Greyhound who were liaisons or interfaced with Goodyear in any way?

A. Not that I'm aware of. Unless Alex Cook was doing that. I have, you know, he never said he did and I didn't ask.

Q. Did you speak with anybody who had done any type of failure analysis at Greyhound?

A. Well, Alex Cook said that he did failure analysis. He did Pareto analysis and

so on. But we didn't talk specifically about any of his analyses.

Q. Did you and Mr. Cook ever talk about failure analyses in terms of the G-409 tire?

A. No, sir.

Q. Did you speak with anybody at Greyhound regarding failure analysis regarding the G-409 tire?

A. No, sir.

Q. Did you speak with anybody at Greyhound regarding how the maintenance report desk kept records?

A. No, sir.

Q. Did you speak with anybody at Greyhound regarding how the maintenance report desk records were kept or maintained?

A. No, sir.

Q. Did you speak with anybody at Greyhound regarding how information was supposed to be transmitted to the desk which collected the information about bus failures?

A. No, sir.

Q. Did you speak with anybody at

Greyhound regarding any load issues related to MCI buses that were used with G-409 tires?

MR. POLLAK: Objection to form. You can answer.

A. The only conversation I ever had about weights was asking Alex whether buses were weighed in any way in a routine manner. The answer is no.

Q. Did Mr. Cook -- that's Alex?

A. Yes.

Q. Did he indicate whether or not he had done any failure analysis related to load issues --

A. No, sir.

Q. -- on Greyhound buses?

A. He did not.

Q. Other than Mr. Cook are you aware of any person at Greyhound who may have been entrusted with the responsibility of performing failure analyses regarding Greyhound bus accidents?

MR. POLLAK: Objection to the form. You can answer.

A. No, sir.

Q. Do you know who a Michael Bair is, B-A-I-R?

A. No, sir.

Q. Do you know who Gary Bolden is?

A. I do.

Q. And do you know if Mr. Bolden has any relation or involvement with inspections that took place regarding the accident tire from the Elizabethtown accident?

MR. POLLAK: Objection. Don't answer that question.

MR. KAPLAN: What's the basis of that objection?

MR. POLLAK: I don't think you are entitled that information.

MR. KAPLAN: I'm entitled to know if he spoke with another consulting expert.

MR. POLLAK: You can ask that question.

MR. KAPLAN: Well, I'm asking him that.

MR. POLLAK: We'll, make it simple. The question you asked and the

way you asked it, I'm objecting and I'm directing the witness not to answer.

MR. KAPLAN: On what basis? Is it privileged?

MR. POLLAK: Yes, absolutely.

MR. KAPLAN: How is that privileged?

MR. POLLAK: Because the question asks about an activity that may or may not have been done by somebody.

Q. Well, did you ever have any conversations, you have any conversations with Mr. Bolden, regarding the tire that was involved in this subject case?

A. Mr. Bolden was at the tire inspection in Akron at the Goodyear Technical Center and you obviously are aware of that.

Q. That's right.

A. And I had tried to hire Mr. Bolden at one time when I worked at Exponent. I had dinner with him at one of the hi-tech tire society meetings, you know, so I know the man.

And we talked, you know, as we are

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going through the inspection, we are talking about things we are looking at. But that's, you know, as far as the substance of those conversations, I don't recall us talking about any kind of opinion or anything.

Q. Did you have any understanding why -- oh, by the way, Mr. Bolden was hired by Greyhound to perform an inspection at the Goodyear Tech Center when you performed your inspection, isn't that correct?

MR. POLLAK: Objection, don't answer that question.

MR. KAPLAN: Why not?

MR. POLLAK: The same reason.

MR. KAPLAN: Well, there is no mystery here that Greyhound brought Mr. Bolden to the Goodyear Tech Center to perform an examination of the subject tire. Isn't that correct?

MR. POLLAK: Well, since there was a sign-in sheet and Mr. Bolden showed up and knew people who worked for Goodyear, I guess there is no secret that he was there. Anything beyond that, besides

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the fact that you may know he was there because he signed a piece of paper or Mr. Stroble saw him and knows him, anything involving Mr. Bolden is privileged.

MR. KAPLAN: No, I have an e-mail from you telling me that Mr. Bolden was going to be there to examine the tire on Greyhound's behalf.

MR. POLLAK: He was going to be there, we told you that because we had to tell you that.

MR. KAPLAN: Right. So I'm just saying there is no secret that Mr. Bolden was there to examine the tire at the behest of Greyhound.

MR. POLLAK: Any questioning involving what Mr. Bolden did or didn't do, the witness is not going to answer.

MR. KAPLAN: I don't agree and I will tell you right now, Mr. Daws, you may have to come back at your own expense if you don't answer these questions. Because my contention is

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that if you had any discussions with Mr. Bolden about what he did, about what you did, what he observed, what you observed, then that is fair game for my examination, and it is not the basis for an objection or a direction to the witness not to answer.

Q. So am I correct that you are going to follow Mr. Pollak's directions not to answer, or are you going to answer some questions I have about Mr. Bolden and his involvement?

A. I'm going to do what my client tells me to do.

Q. And your attorney?

MR. POLLAK: I think he was talking about --

A. Actually, you know, I'm not represented by counsel here.

Q. So then you are not answering the question on your own accord?

A. I suppose so.

Q. So let me ask the question again. Were you aware that Mr. Bolden was at the

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inspection of the tire at the Goodyear Tech Center because Greyhound had hired him to attend?

MR. POLLAK: Objection. Don't answer that question.

Q. Are you going to answer Mr. Daws? You tell me you are not represented by counsel. So I understand he is directing you, but it is your decision.

A. Well, I have to go with what my client says.

Q. Did you ever talk to Mr. Bolden about his examination of the G-409 tire that was involved in the Elizabethtown accident?

MR. POLLAK: Objection: asked and answered. You could answer.

A. I did not.

Q. Do you know why Mr. Bolden was present at the examination of the Elizabethtown tire?

A. I have absolutely no idea. It is a little bit of an affront to me as an expert, but, so be it.

Q. Do you find it -- would it be an

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unusual situation that a client would hire two different tire experts to perform an examination on the exact same tire at the exact same time and location?

MR. POLLAK: Objection to the form of the question. You can answer that hypothetical question.

A. That, if you take out the "at the exact same time and the exact same place," the answer is no, it is not unusual at all.

Q. Okay.

A. If you add at the same time and the same place, yeah, it is fairly unusual. Although, I've been in inspections where different clients have different tire experts there.

Q. Now, you said it was an affront to you?

A. Yeah.

Q. Could you explain why it was an affront to you?

A. Well, I generally don't have clients that hire multiple tire experts.

Q. As if somebody was going to

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second-guess what your conclusions might be?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Well, I mean, yeah. I mean, let's face it --

Q. And it is also like hedging your bets as well, isn't it?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Again, I don't know what Mr. Bolden's opinions are. I have no idea.

Q. Well, so, in other words if a client didn't like what expert A said, they can always fall back on what expert B said?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That happens all the time in this business. I mean, why does Goodyear have multiple experts? Same reason.

Q. How do you know that that's the same reason?

A. Because you can only have one.

Q. How do you know that that's why Goodyear does that?

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A. Why else would they pay the money for multiple experts?

Q. Is that your answer?

A. That's my answer.

Q. That you don't have an answer?

MR. POLLAK: Objection to the form of the question.

A. Well, I only have my suspicions, okay.

Q. Now, how about Mr. Bair, you have never heard of him?

A. Never heard of him.

Q. Are you aware that the NTSB had examined the tire prior to the time that you had an opportunity to examine the tire?

A. Yes, I am.

Q. When did your examination of the tire take place?

A. July 30, 2008.

Q. And the accident had occurred approximately two years earlier, right?

A. I believe so, yes.

Q. Do you know when the first time the tire was examined by the NTSB was?

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A. No, I don't.

Q. Do you know who attended the examination on behalf of the NTSB?

A. Jim Gardner was their tire expert.

Q. Do you know who else attended the examination when Jim Gardner attended?

A. No, I don't. Although, I believe from the report Mr. Stroble was there but that's all I remember. And Mr. Yohe maybe, but that's all I know.

Q. But you don't remember seeing the name Michael Bair there?

A. No, I don't.

Q. Would it have been customary for Greyhound to have its own tire expert attend an inspection that was being conducted on behalf of the NTSB?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Well, they would have had a person there. Maybe Mr. Cook or somebody else. I don't know.

Q. You wouldn't have any reason to dispute that an individual by the name of

Michael Bair who is a consulting tire expert, attended the inspection on behalf of Greyhound in 2006, would you?

MR. POLLAK: Objection to the form. You can answer.

A. I have never heard of Michael Bair and I thought I knew all the tire experts in the industry. I've never heard of him.

Q. Would it concern you even more that in addition to having the mirror examination conducted by another expert when you looked at the tire, that Greyhound had also used another expert to attend the NTSB inspections in 2006?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That doesn't concern me at all.

Q. Either way, Greyhound has never given you any information from a Mr. Michael Bair, have they?

A. No, sir.

Q. And they haven't given you any information from Mr. Bolden regarding his examination of the subject tire, have they?

MR. POLLAK: Note my objection. You can answer.

A. That's correct.

Q. Have you ever written anything regarding steel-belt design?

A. No, sir.

Q. Have you ever written anything regarding puncture resistance in radial medium truck tires?

A. No, sir.

Q. Now, when you examined the subject tire, that was at the Goodyear Tech Center, the first time, correct?

A. That's correct.

Q. And who else was with you when that tire examination took place?

A. Well, let's see. Mr. Pollak was there, Mr. Cook, Mr. Bolden. The guy from the Goodyear Tech Center lab, and I really don't remember his name. I think Mr. Reuschlin was there and Mark Arndt.

Q. Now, prior to your inspection of the tire on that occasion, had you reviewed any notes or reports from examinations

regarding that tire, which had predated your exam?

A. I think there was a draft of the NTSB, you know, a draft, not for publication, that was forwarded to me.

Q. And you read that?

A. And I read that.

Q. Anything else?

A. Not that I'm aware of.

Q. Had you formed any opinions about what the cause of the tire failure was at that time just prior to the time that you performed your own inspection?

MR. POLLAK: Objection to the form.

A. No, sir. I hadn't seen the tire.

Q. Now, why don't we take a look -- by the way, you prepared exam notes regarding that accident tire, isn't that correct?

A. Yes, sir.

Q. And I believe they are included in attachment 1 from pages 4 through 8 from your report?

A. Actually that particular

inspection includes through page 12 because it is both front tires off the bus.

Q. Right. I'm just referring to the accident tire.

A. Okay.

Q. Am I correct? Have I identified the pages?

A. Yeah, that's fine.

Q. This is a form page that has a lot of typewritten information with areas where you can handwrite information into. Is that correct?

A. It is my inspection blank, yeah.

Q. Was this a form that was created by you?

A. Yes, it was.

Q. And it looks like you have different dates on the bottom left-hand corner of when the pages, the individual pages were created?

A. Well, or modified.

Q. Okay.

A. I try to keep up with whether I have the current version.

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Q. Is this the exact form that you have with you when you are doing your tire exam, or do you first record your findings onto a piece of paper and then later enter them into the examination report?

A. This is it. What you see is what you -- these are the notes I take while I'm doing the inspection.

Q. Okay. Now, you don't have a separate handwritten note that has additional information?

A. No, this is it.

Q. Okay. Now, I presume that one of the things that you try to accomplish with this is to record what you see as forensic evidence which could shed light on what the cause of the failure was. Is that correct?

MR. POLLAK: Objection to the form of the question. You can answer it.

A. The inspection, for me the recording of the inspection is basically recording my observations. It is not a -- you know, I really try not to draw any conclusions while I'm doing this. I try to capture all

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the observations.

Q. But would it be fair to say that the observations you choose to record are observations which you think may be useful to you in rendering an opinion later on based on the forensic evidence?

MR. POLLAK: Objection: asked and answered. Objection to the form. You can answer it.

A. Well, the useful to me is kind of, maybe hyperbole because sometimes the things I record, come back to bite me in terms of my opinions or whatever. But I try to capture all the observations that appear to me to be significant. Okay, so -- and then from that I have to formulate opinions --

Q. Okay.

A. -- that match up with the rest of what I know about the case and so on.

Q. Is there ever an occasion where you perform an exam on a tire and then later look at photographs of the tire and change what's in the examination report or supplement what's in the examination report?

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A. Not in terms of the observations. Typically what -- I'd say never but typically what gets changed in the inspection form are pages 2 and 3.

If you look at page 2 and page 3 of the inspection form, one has information, for example, about where the inspections take place and what I know about the accident. Sometimes what I know about the accident is pretty sketchy. Sometimes, you know, when I do my inspection, I don't have a vehicle placard to look at and somebody sends me a photograph of that, you know, if they've sent me the tire to inspect, for example. So I would be updating those.

Generally my observations, my tire observations are pretty much done at the time the inspection is over.

Q. Now, in examining a tire that had been involved in a tread separation, would looking for polishing be something that you would do?

A. Oh, absolutely.

Q. Could you show me where in the

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examination notes for tire 1 as it is called, you indicate polishing?

A. Well, the inspection of the location where you have polishing is where I've noted edge cracks between belt 2 and belt 3.

MR. POLLAK: Just for the record, the pages are numbered on the top right corner.

MR. KAPLAN: On the top right-hand corner, right.

MR. POLLAK: So just indicate where you are referring.

A. Okay. So on page 6 in the second rectangle there, you will see edge cracks between belt 2 and belt 3. That's the location where there is polishing, although I didn't write down polishing.

Q. Okay. Is there a reason why you didn't write down the word polishing at the time?

A. No.

Q. Isn't polishing a fairly significant forensic finding that one would

expect to find in a tread separation?
A. Sure, but I got a great photograph of that location.
Q. But was there any reason why you didn't write it down?
A. Not that I know of.
Q. Now, in terms of over-deflection, that is something that would be a forensic indicator as well. Right?
MR. POLLAK: Objection to the form.
Q. Could you show me where you have indicated signs of over-deflection on the inspection or examination sheets?
A. Well, you have, you know, your bead grooves which in this case, in this tire are very narrow for this type of tire, for the G-409 on this service.
Q. Can you just tell me what page and where --
A. Okay, page 7, the supplemental notes.
Q. Okay.
A. You can see on page 6 there is a

tag, there is a circle around the -- and if you'll look at those two circular drawings, you will see there is a circle inside of the inner most circle and a line going out and a number 13 on both sides.
Q. Um-hum.
A. And flip over to page 7, item 13, it says bead groove, and you will see that I've measured them.
Q. Okay.
A. Okay.
Q. All right, how about in terms of cracking, I notice you mentioned the edge cracks on page 6.
A. Right.
Q. Was there any other evidence of cracking that you noted?
MR. POLLAK: Objection to the form. You can answer.
A. No. I don't see the word cracking anywhere else. There were obviously, you know, things on the sidewall consistent with the accident.
Again, I generally don't record

stuff that is associated with the accident, although there is some notation here on the sidewalls of abrasion, cuts and a split.
Q. Now, how would you describe -- this was a tread separation, is that correct? Or would you describe it as a tread and belt separation?
A. It's a -- it's -- it's basically a tread and belt separation provoked by loss of air, okay. But it is -- it is a preexisting fatigue crack system in the tire which is why it happens to fail at this location.
Q. Now, when you say provoked by loss of air, would that mean air that was lost through the puncture that we have been talking about previously?
A. Yes, sir. But this fatigue crack system, this system of edge cracks preexisted the failure of the tire, pre -- you know, it takes, because of the polishing in evidence there, it takes some time to develop that cracking.
Q. Later on you indicated, I believe in your report you said there was limited

polishing. Is that correct?
A. That's correct.
Q. So how long a period of time would it take for this type of an edge crack to have occurred with limited polishing?
MR. POLLAK: Objection to the form. You can answer.
A. Again, we are talking anywhere from a thousand to a couple of thousand miles. You know, where it starts to polish we can see that the edge cracks are considerably more extensive than that. They just haven't started to polish yet.
Q. Now, you've testified previously the polishing can start anywhere from 500 to 1500 miles, is that correct?
A. Well, in a passenger car tire, yeah. You've got to remember these tires are far, far stiffer.
Q. So you would say it could be anywhere from a thousand to 2,000?
A. Well, a thousand to maybe 5,000 miles.
Q. Okay.

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A. You know, I mean, these tires are very much stiffer than passenger car tires.

Q. A thousand being the low end and 5,000 being the higher end?

A. It may even be longer than that. I don't know. You know, I don't think anybody -- if there has been much work on polishing as an indicator, it's been on passenger tires because that's where most of the work is done.

Q. Right, and no studies have been done showing how long polishing takes to accumulate in radial medium truck tires, is that right?

A. Right. All we know is that it doesn't happen overnight.

Again, you know, the experience would be that it would take considerably longer than the same amount of polishing in a passenger or light truck tires.

Q. But theoretically, if a bus went for a thousand miles overs three or four days, you could develop that kind of polishing in that period of time?

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A. Again, that would be fairly extreme. You know, I think it is, you know, this crack predates the, you know --

Q. This tread separation?

A. This tread separation predates the loss of air in the tire. So something is causing the tire to break down here in its normal service.

Q. Well, if there had been a slow leak caused by a puncture in a tire over a course of four or five days, would this type of polishing have exhibited itself?

MR. POLLAK: Objection to the form. You can answer.

A. I don't think so. I think that the edge cracks, my opinion is that those edge cracks and that polishing is consistent with something that is going on in the tire in a more routine basis.

Again, the air loss in this tire was sufficient to -- not sufficient to support the -- this particular puncture having been in there for, or is more significant than you can support having been in the tire for multiple

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days.

Q. When you have written in papers that these types of, this type of polishing can occur in tens of miles, you were referring to passenger or light truck tires?

A. I've never referred to polishing having occurred in tens of miles. I've talked about flat spot wear, irregular wear. You know, the polishing, the polishing aspect of the skim rubber is a little bit different.

Q. Did you ever say in an article written for the Rubber and Plastic News, called Forensic Analysis and Tire Tread Separations that typical estimates of durations are thousands of miles for heavy polishing versus merely several tens of miles for regions showing little or no polishing?

A. Yeah.

Q. Okay, so --

A. And again, that is primarily passenger and light truck tires. You know, two-belt tires, fairly light weight.

Q. So again, though, you can't rule out that this type of polishing that you

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observed could have occurred over the course of a few days in a bus going a thousand or 1500 miles. Is that correct?

MR. POLLAK: Objection to the form. It has also been asked and answered. Over objection you can answer.

A. A thousand or 1500 miles a day for --

Q. No, over a five-day period.

MR. POLLAK: Objection to the form. Asked and answered. Over objection, you can answer it again.

A. Again, I think a thousand miles would be fairly extreme because there is no transition of the polishing, that is, the cracking is just getting into the steel belt area, or getting towards the center of the steel belt, and the looseness that generates polishing obviously hasn't progressed very far.

Q. I thought you had said earlier that that polishing can occur anywhere from 1 to 2,000 miles?

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A. It can start.
Q. And you would get limited polishing as a result of that?
A. You would get minimal, minimal polishing. You know, again, this polishing is very evident.
Q. Okay.
A. You know, it is just not, if you think in terms of severe polishing, severe polishing is where you basically, you know, rubbed off most of the skim rubber and your steel cord is exposed. We are not at that level here.
Q. Now, do you indicate where the puncture is we've talked about in your exam notes?
A. I do.
Q. Can you just show us where that is.
A. If you look at page 6 at the two top rectangles, you can see that there is, in the segment after the 6 o'clock location, you can see the piece, the tread piece labeled No. 9, there is a hole indicated.

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And the same thing in the second rectangle, the underside of that hole in the, in the inner liner or in the casing, you can see there is a hole noted in both the inside and the outside.
Q. Now, this is at the 6:30 position, correct?
A. Yeah, about the 6:30 position.
Q. How easily visible was this hole on the tread side?
A. On the outside of the tread, it looked like a small cut. I mean, it would be hard to define it, you know, looking at it with nothing in it, it would be very difficult to define it as a puncture. So if the tire was still intact and you looked at, it looks like a small road cut.
Q. So a driver or somebody who may have been looking at this tire after the puncture occurred, but before the tire failure occurred, might not have even noticed this as a puncture. Is that correct?
MR. POLLAK: Objection. You can answer.

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A. I think that is probably correct. It is clearly an in and out kind of cut that the screw made in the tire, and there is -- you know, most of the time punctures are noted by people when they see the puncturing entity sticking out of the tire.
Q. Was there also a rubber flap over the puncture area on the tread?
A. Well, again, the hole is kind of a wiggly shape.
I mean, if you want to call it a flap, yes, but let me see if I can get a picture of it. It is kind of a W-shaped looking hole.
You know, if you want to call that a flap, so be it.
Q. Based on --
A. Yeah, if you look at photograph No. 142 of my inspection set.
Q. Okay.
A. There is a, you can see the hole and it is a squiggly looking like W sort of a shape. I suppose you could call that flap if you wanted. But it is kind of, the screw goes

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in, the screw comes out and the place closes up again.
Q. Based on the configuration of the hole of the cut pattern, would you anticipate that during operation, the hole might have sealed up somewhat, slowing the flow of air out of the cut?
MR. POLLAK: Objection to the form. You can answer.
A. Absolutely not. There is more than enough cross-sectional area in that opening to overwhelm whatever air can come out of the hole in the inner liner.
Q. Has that been known to happen that during operation, a puncture hole or a cut hole can close up as a result of the movement of the tire on the road?
A. I would say the answer to that is no, and the reason I would say that is you could, you might consider, for example, that when the tire goes around and that hole is on the ground, you know, there isn't going to be any air coming out of it, or there might not be any air coming out of it. But it is only

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on the ground for a very short period of each rotation, and the rest of the time it's just open. You know, I have seen cases, of course, where the puncturing entity actually goes through the tread and is still in the tread. It actually, you know, you wear it off on the surface of the tread.

Q. Right.

A. And then, you know, basically the tire tends to leak every time whatever that entity is hits the ground, as opposed to the other case.

Q. How about dirt or debris getting into the cut area or the hole area: did that happen?

MR. POLLAK: Objection to the form. You can answer.

A. I suppose it is a limited possibility, but nothing, there was nothing in this that led to, you know --

Q. When you observed it?

A. Yeah, there was no evidence that there was anything in that hole, and, you know, immediately after the accident there

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may have been some dirt associated with the accident scene. That wouldn't be unreasonable.

Q. Well, if dirt had gotten into a hole created by a puncture that was creating a slow leak over a period of days, could dirt have gotten into that hole and slowed the flow of air out of that puncture site?

MR. POLLAK: Objection to the form. Also, asked and answered. You can answer.

A. Again, the inside of the whole would show evidence of dirt.

Q. Well, dirt can come in and it can go out --

A. Yeah, but --

MR. POLLAK: Objection to the form. You can answer.

A. But there will be some residual gray coloration associated with dirt having been there.

Q. In all cases?

A. All the ones I'm familiar -- I mean, anything I've ever seen. If the hole

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has been plugged up with dirt, then there, you know, if somebody washes it out, I mean if somebody takes water and cleans it out, you won't find that. But the dirt will dry up and, you know, it will be gone.

Q. And by the time you looked at the tire, several other people had already looked at the tire. Isn't that correct?

A. Yes. As far as I know.

Q. And air had been forcibly shot through the hole through the liner outward, isn't that correct?

A. Not through the tread. Only through the belt package.

Q. But through the belt package it was out, correct?

A. Right.

Q. Now, the construction of this G-409 tire, would you say that it was a normal construction for a radial medium truck tire?

MR. POLLAK: Objection to the form. You can answer.

A. It really depends on what you mean by normal.

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Q. Well, was it unusual in any way, the type of construction?

MR. POLLAK: Note my objection to form. You can answer.

A. It looks like lots of four-belt radial medium truck tires.

Q. Did you see anything unusual about it?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Again, nothing that you would -- from a forensic standpoint.

Q. Now, on page 7, your observations sections, you see -- well, it looks like in some of these sections you have specific items 1 through 19, and as you mentioned earlier you have some comments by No. 13, bead groove and then you have some additional lines I suppose for observations that don't necessarily fit in the topics 1 through 19. Is that correct?

A. That's correct.

Q. And would you say that you put in -- what's the purpose for having these blanks lines after all of those numbers?

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MR. POLLAK: Objection. You can answer.

Q. In other words, why do you have a space there for comments, what's the purpose?

A. So I can make comments.

Q. And why would you make a comment?

MR. POLLAK: Objection to the form. You can answer.

A. To, well, you know, if you do the number of inspections that us guys in the forensics business do, and then three years later somebody wants to know what you saw, hopefully you have, you know, some notes.

Q. And it would reflect on things that you saw of some import at least to you, correct?

A. That's correct. So if those notes can't be easily done directly on the drawings, then sometimes you, you know, I'll note additional things that I've seen. And I may make additional drawings like I did here.

Q. Now, on No. 4 you see it says hole comment?

A. Yes.

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Q. And there is no comment, correct?

A. That's correct.

Q. And then on number 6 it says nail, et cetera, comment, and there is no comment?

A. That's true.

Q. Any reason why you didn't put any comments in?

A. Because I got notes here about what the hole is and then I got my microscope out and took close-up pictures of it, took other detailed pictures of the thing.

MR. POLLAK: Referring to page 6.

A. Referring to page 6 in the inspection notes.

Q. At that time did you have any opinions as to whether or not a hole or a nail, et cetera, had any relationship to the tire failure involved in this accident?

MR. POLLAK: Objection to the form. You can answer.

A. Well, certainly I knew that based on the leak video that the NTSB had, I knew that air actually went out through the inner liner here. So it certainly played some role

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in it.

Q. When did you first view the leak video?

A. Let's see. I don't really recall. I know I pulled it off the -- I can't remember. I can't remember.

Q. Okay. On page 3 of the inspection, this is in that general area that you -- it doesn't relate specifically to tire 1.

A. Right.

Q. You indicated that the front GAWR was 16,000 pounds. That's the gross axle weight?

A. That's correct.

Q. Is that correct?

A. Um-hum.

Q. And you also indicate that the GVWR -- that's the gross vehicle weight rating?

A. That's correct.

Q. -- is 48,000 pounds. Where did you get that information from about the gross vehicle weight rating?

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A. I think that's out of the NTSB report. If it is not on the placard -- I'm sure it must be on the placard.

I don't have my bus photographs in this book.

Q. All right --

A. Technically, it is supposed to be on the placard.

Q. Now, it is in the NTSB report?

A. Yeah. It is in the NTSB report, yeah.

Q. I'm just curious, I have a question about combined gross axle weight ratings versus gross vehicle weight ratings.

A. Right.

Q. The question I have is this. Here you have a bus that has a gross axle weight rating in the front axle of 16,000 pounds.

A. Right.

Q. And then you have two other axles that have gross axle weight ratings?

A. Correct.

Q. In this case if you add up the combined gross axle weight ratings, it is

about 50,500 pounds.
A. Correct.
Q. How does that differ from the gross vehicle weight rating?
A. Gross axle weight ratings will rarely equal the gross vehicle weight rating. And, in fact, in my experience they never do. And the reason is that the weight, the load weight can shift back and forth in a vehicle. So, you know, the axle weight, the sum of the axle weight ratings is always larger than the gross vehicle weight.
Q. Does that provide any safety margin in a bus that is loaded properly in terms of where the load is distributed?
MR. POLLAK: Objection to the form. You can answer.
A. Well, if you can control where the load goes in a bus, that is, you can force people to sit uniformly and you make sure all the luggage is put in uniformly and stuff like that, then probably.
On the other hand, you know, you can't force, you can't tell people to sit in a

particular location.
Q. Well, you can tell them to sit in the seats, right?
A. Well, yeah, they have to sit in the seats, but you have no idea -- for example, if there is 30 people on the bus, you have no idea whether all 30 of them are going to sit in the back or whether all 30 of them are going to sit in the front.
Q. Who would control that?
MR. POLLAK: Objection to form. You can answer.
Q. Where people sit in the bus.
A. You know, unless you do what the airlines do, you know, assign seats, I don't know how you could control that.
Q. Well, is that something that Greyhound could have done?
MR. POLLAK: Objection to the form of the question.
A. Again, I wasn't looking at what Greyhound might or might not have done in this case. All I'm saying is in the industry, in the busing industry, my experience is that is

generally not controlled.
Q. Could anybody else other than Greyhound have controlled where passengers sat within their buses?
MR. POLLAK: Objection. You can answer.
A. Well, I think, you know, the answer to that is no, but nor could they control how much people weighed and how much luggage they brought.
Q. Well, those are estimates that are determined in the industry, are they not, how many pounds you attribute to a particular passenger and how much weight you attribute to the luggage that they bring on?
A. Well, sure, that's why you, you know, Tire and Rim and the federal agencies basically use 150 pounds per person and 35 pounds of luggage, but, you know, clearly in America today, 150-pound average people just, you know, there aren't a lot of us around.
I mean, I'm not a big guy but I weigh, you know, I tip the scales at 180 pounds and when I travel anywhere, you know,

I've got my briefcase and I've got my suitcase. And if I go on an inspection, my inspection bag weighs 45 pounds and my suitcase weighs 30.
Q. Children travel as well, right?
A. Sure.
Q. And women travel?
A. Sure they do.
Q. And are you aware of Greyhound ever challenging or contesting the 150-pound bogey for passenger weight or the 35-pound Bogey for luggage weight?
MR. POLLAK: Objection to form. You can answer.
A. The only conversation I ever had with anybody at Greyhound about that was with Mr. Cook, and he said he thought that was a bunch of garbage. And he had , you know -- I mean, to me the proper way to do it is to take a -- when you are doing the vehicle design, you take the distribution of people, weights and so on, and the locations of seating and luggage, and you run a Monte Carlo simulation where you, you know, randomly select various

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weight people at various locations. I mean, that's how we do imbalance in tires, that's -- you know.

Q. Now, Mr. Cook felt that was, what was your term, a bunch of garbage?

A. Yeah, that 150-pound average is not necessarily the, you know, not necessarily real life.

Q. And was Mr. Cook concerned that that could lead to potential safety issues regarding the load that was placed on the Greyhound buses?

MR. POLLAK: Objection to the form of the question.

A. He just said they used 150 pounds and he didn't think that that was necessarily reasonable.

Q. That was to you he said that?

A. That was to me.

Q. Do you know if Mr. Cook ever complained to the Department of Transportation about those figures?

A. No, sir, sure don't.

Q. Do you know if he ever complained

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to MCI about that?

A. Oh, there were some -- I don't know whether Mr. Cook did.

Q. Mr. Cook?

A. No, I don't.

Q. About the 150 pounds?

A. No, I don't.

Q. How about Goodyear, did Mr. Cook ever complain to Goodyear about the 150 pounds?

A. Not that I'm aware of. Like I said, I don't know.

Q. I want to show you something that was part of your file which was an MCI-produced document 1001057. And it is entitled Table 4, Bus Passenger Profile Summary Observations. And I want to ask you, does this break down passengers by age, height, weight and sex?

MR. POLLAK: Can we just mark that, Mr. Kaplan, as he is looking at it?

MR. KAPLAN: Sure. What are we up to now?

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MR. POLLAK: The two binders were 1A and 1B.

MR. KAPLAN: And then this we didn't mark?

MR. POLLAK: No.

MR. KAPLAN: So mark it as Daws 2.

MR. POLLAK: You have to let the reporter mark it first, John.

(Daws Exhibit 2, document produced by MCI bearing No. 001057 entitled Table 4, Bus Passenger Profile-Summary Observations marked for identification, as of this date.)

MR. POLLAK: Let me see that, John.

THE WITNESS: Um-hum.

MR. POLLAK: I think, I'm not sure what you called it, but it says at the top Table 4 Bus Passenger Profile-Summary of Observations.

MR. KAPLAN: I called it MCI and then I gave a number. It looks like the number is 001057.

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Q. Now, when you look in the sections for where the weights of the passengers are located, do you see, it looks to me that three particular weight groups are significantly higher than all the others?

A. Yes.

Q. And what weight groups are those?

A. 121 to 140, 141 to 160, 161 to 180.

Q. Well, actually 100 to 120 is more than 161 to 180, isn't it?

A. Okay, 194 to 196, yeah, for a total. Right.

Q. Now, is there anything that you can tell me looking at that which would cut against a weight determination of 150 pounds per passenger?

MR. POLLAK: Objection to the form. You can answer.

A. Well, again, you know, I don't know, I don't have a date on this. I don't know who, you know, where this came from or anything else. You know, and I simply haven't looked at the demographic data for the

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United States.

You know, I would guess that if you pulled democratic data -- or demographic data, you would find that, you know, on average of a hundred and -- because the most, the most densely populated cell in here is 121 to 140 pounds. That would suggest that the average American is somewhere around 130 pounds and I would suspect that's not true today.

Q. Well, luckily we are not guessing and suspecting and we are not basing this on what your knowledge is of your own weight, right?

A. That's true. On the other hand, there is no date on that. You know, I mean if that is a 1975 study, it is a very different set of numbers than they would be today.

Q. Well, you also have to factor in you have infants from 0 to 5 years?

A. Sure.

Q. And children from 6 to 10 years old?

A. No doubt. And you also have

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undetermined luggage and cargo and so on in real life bus service.

Q. Now, do the airlines make calculations for passenger weight and loads?

MR. POLLAK: Objection. You can answer.

A. I know they do.

Q. Did you check any of those studies?

A. No, I didn't.

Q. Have you checked any studies which detail the amount of weight assigned or luggage assigned to a typical passenger on any means of conveyance, such as a bus, a train or an airplane?

A. No, sir.

THE WITNESS: Could we take a break for just a couple of minutes?

MR. KAPLAN: Sure.

MR. POLLAK: Sure.

THE VIDEOGRAPHER: Going off the record at approximately 2:23 p.m. This is the end of tape No. 3.

(Recess taken.)

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THE VIDEOGRAPHER: This is the beginning of tape No. 4 in the Daws deposition. We are going back on the record at approximately 2:33 p.m.

BY MR. KAPLAN

Q. Now, the fact that you were retained by Greyhound and performed these examinations on the subject tire, this is because you were looking to find a cause for the tire failure. Is that correct?

MR. POLLAK: Objection to the form. You can answer.

A. Well, I was looking to -- yeah, to find the cause of the tire failure, yeah.

Q. Now, you've describe your own scientific method to reach an opinion to a degree, a reasonable degree of engineering certainty as, "pruning the tree down to one cause." Is that a correct statement?

A. I think that's a fair assessment of what goes on, yes.

Q. Now, we've already discussed the fact that punctures by nails and screws is not an uncommon occurrence in tires, correct?

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MR. POLLAK: Objection to the form of the question. You can answer it.

A. Well, actually it really is an uncommon event, yes. Is actually is not very common.

Q. Well, you have had your own tires punctured by screws, haven't you?

MR. POLLAK: Objection, you can answer.

A. Sure. Everybody has I think. But when you look at the number of punctures, I'm almost 60 years old and I probably had ten total punctures in my life.

Q. And if we multiply everybody times ten, that is a lot punctures, isn't it?

A. It is a lot of punctures, but it is not a lot of per mile -- you know, per miles traveled it is not a big number.

Q. Well, punctures can be repaired, isn't that correct?

MR. POLLAK: Objection to the form. You can answer.

A. Yeah, the -- really it all depends. I mean, if the tire hasn't been run

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flat, then, and you have a puncture and it is done properly, you can generally repair a tire unless it is punctured, you know, outside the outer tread grooves and things like that.

Q. If someone has discovered a puncture in the tread area of the tire before the tire has failed, that tire can be a candidate for puncture repair. Isn't that correct?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That's correct.

Q. In fact, it is assumed by the industry that punctured tires can be repaired?

MR. POLLAK: Objection to the form.

A. Yeah, I think that is, you know, again, provided they are not damaged in the process of going flat. That is, you have to notice that you have a puncture before it actually goes flat.

Q. Let me go a step further. The industry assumes that tires can be punctured all the way through the inner liners and that

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those are the types of punctures that can be repaired, correct?

MR. POLLAK: Objection to the form. You can answer.

A. That's correct.

Q. Now, you have examined tires through the course of your consulting work that have had numerous puncture repairs in just the one tire. Isn't that correct?

MR. POLLAK: Objection. You can answer.

A. They have had numerous puncture repairs, yes.

Q. You have seen tires with three or more separate puncture repairs in that individual tire, correct?

MR. POLLAK: Objection to the form. You can answer.

A. But, in general, I'm looking at failed tires. So by the time you have multiple puncture repairs, you know, you are more likely to have a failed tire.

I mean, you know, the problem with oxygenation, or, you know, oxidative breakdown

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of the tires, every time you dismount it and remount it, you start again.

Q. Let's say it is, the puncture that occurred in this case was discovered shortly after it occurred. Was this the type of puncture that could have been repaired?

MR. POLLAK: Objection to the form. You can answer.

A. In all likelihood that had this puncture been discovered, it could have been repaired. Again, provided the tire hadn't been driven too far and suffered heat damage and things like that. I mean, you know it would require a dismount and inspection and so on, prior to doing a repair.

Q. Now, in order for a tire to become punctured, many factors are involved, such as type of object that causes the puncture, correct?

A. Correct.

Q. The sharpness of the object?

A. In general, yes.

Q. The position and angle that the object encounters the tire?

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A. That's correct.

Q. The portion of the tire encountered?

A. That's correct.

Q. The speed of the vehicle at the time that the object and the tire encounter one another?

A. That's correct.

Q. The location, in other words, the type of surface that the puncturing object might be on, in other words a hard surface as opposed to a soft dirt surface?

A. Okay, if you, if you take into account off-road operation, yeah.

Q. And the air pressure in the tire itself will have some effect on its puncturability, isn't that correct?

MR. POLLAK: Objection to the form. You can answer.

A. Well, generally, road hazards in general, the more highly inflated the tire, the more likely you are to have road hazard damage of any sort.

Q. Now, this all goes into that

randomness category that you were talking about, all the different conditions that you have which lead up to the puncturing of the tire, correct?

MR. POLLAK: Objection to the form. You can answer it.

A. Which in my opinion goes to why it has not been studied in any great detail because reproducing a given specific puncture is almost impossible.

Q. Now, could you define over-deflection?

A. Sure, over-deflection in tire science is when the tire has more deflection than it would have at its max load, max pressure condition.

Q. And is underinflation or overloading two types of over-deflection?

A. Underinflation --

MR. POLLAK: Objection to form. You can answer.

A. Underinflation and overloading are two sides of the same coin. A tire carries a load that is dependent upon its pressure. So

at a lower pressure, a tire carries a lower load or maximum at the level of what I call maximum deflection.

Q. It is kind of like a load scale?

A. Right. If you define the maximum deflection of the tire, as that state where it has max load, max pressure, then any state that allows it to have more deflection than that, is, by definition, over-deflected.

Q. So a tire which is on a vehicle that is not overloaded but is running with too little air pressure, can suffer signs of over-deflection. Is that correct?

A. That's correct.

Q. And those are the exact same signs that you would see in a tire that was inflated to proper pressures that was mounted on a vehicle that was overloaded weight-wise. Is that correct?

MR. POLLAK: Objection to form.

A. In general, in general you are correct. Although, I think that overloading tends to have some slightly different indications on the bead than underinflation.

But that's really only dependent upon long-term operation at that state.

Q. Now, would you say that over-deflection, in other words underinflation or overload is one of the environmental issues which can cause steel-belted radial tires to fail through tread and tread belt separations?

MR. POLLAK: Objection to the form. You can answer.

A. Certainly overload or underinflation can cause tire, radial tires to develop tread separations, yes.

Q. And punctures which lead to under-inflated operation can cause tires to fail through tread and tread belt separations, is that correct?

MR. POLLAK: Objection to form. You can answer.

A. Again, it has been my experience that a puncture, unless it causes -- you know, a puncture, generally breaks the tire down in terms of allowing it to run flat, long before it ever causes a tread separation.

If the tire is intact and has

integrity at the time it receives a puncture, it will generally go flat long before you ever have tread separation.

Q. So, in other words, you can have the following scenario: You can have a tire that's punctured that leads to a slow leak which leads to under-inflated operation, which leads to heat damage to the tire, which leads to separate, a tread separation, isn't that correct?

MR. POLLAK: Objection to the form. You can answer.

A. I think that, from what I have seen, punctures tend to result in run flats which in the case of a medium radial truck tires may result in tread peeling off but for different reasons than a tread separation. That is, you will generally never find edge cracking and polishing in those pieces.

Q. Haven't you testified on numerous occasions that punctures which lead to under-inflated operation can cause tires to fail through tread, and tread and belt separations?

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MR. POLLAK: Objection to the form. You can answer.

A. You can definitely get the tread and the tread belt to peel off as part of that, sure.

Q. And that's because the punctures lead to under-inflated operation, correct?

A. That's correct.

Q. And the under-inflated operation leads to the degradation of the tire which is consistent with the degradation that leads to a tread separation?

A. That's true. Although in those cases, you will generally never find polishing and extensive edge cracking. It is a different mechanism going on at the level of the tread belt.

Q. Well, all of that can occur, though, without any defect being involved, correct?

MR. POLLAK: Objection to the form. You can answer.

A. You can certainly have no defect that would result in a tread separation, that

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is too thin a wedge or misplaced belts, things like that, and have the tread come off the tire due to it being run underinflated, yes.

Q. Tread and tread belt separations occur in every type of radial medium truck tire, correct?

MR. POLLAK: Objection to form.

A. To my knowledge, yes.

Q. And that is not because they are defective; this is something that can happen based on a number of different environmental factors, correct?

A. You can always, you know, no matter how you build a tire, there is a way to cause it to have a tread belt separation.

Q. And is it also fair to say that properly constructed and designed tires can sustain a puncture, which leads to a slow air leak, which leads to underinflation, which leads to damage to the tire, which leads to a tread separation?

MR. POLLAK: Objection. You can answer.

A. I suppose it is conceivable that

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if you had a puncture and a slow air leak, and it went on for days and days or months, you could get a tread belt separation out of that, yeah.

Q. Can misalignment cause tread belt separation?

A. Misalignment can cause the belt stresses on one side of the belt to be higher than another, and if the tire is susceptible to tread belt separation, you can definitely create that situation.

Q. Well, did the tire, the two front tires on the bus involved in the Elizabethtown accident, did they exhibit signs of misalignment?

A. Yes, they did.

Q. And would you, is it your opinion that misalignment of the bus in some way contributed to the occurrence of the tread separation?

MR. POLLAK: Objection to form. You can answer.

A. No, sir.

Q. Can you explain why it is that

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misalignment can lead to tread separation and that these tires showed signs of misalignment but it was not a contributing factor to the tread separation that occurred here.

A. Sure. In the first place the tires are mounted on a rim that is really narrower than recommended, so they are going to be susceptible to edge wear. The design itself it is susceptible to edge wear. And in this case we have, again, we have shoulder wear on the sides of the tire that you would expect to find from a toe-in situation, but the bead grooves are essentially equal which means that it is not severe.

So my conclusion from that is that the, there was some marginal toe-in causing wear or due to the -- you know, causing shoulder wear on the tire that is associated, you know, exacerbated by the fact that the rim's too narrow, you know, but it is not significant or it's not large because the bead grooves are essentially the same size. If you had different size bead grooves on each side of the tire, substantially different size bead

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grooves, then the tire would have been shifted pretty dramatically in its load.

Q. Are you actually saying that there was a misalignment damage, but that that wasn't sufficient enough to contribute to the tread separation?

A. Well, there is no misalignment damage. There is some additional wear on the outer, I think it is the outer rib of each of the tires. There is also chamfer wear which, again, doesn't have anything to do with misalignment. But, you know, it is just not unusual to find some level of misalignment wear, especially -- well, in this case because the tire is mounted on a narrow rim, it is going to be much more susceptible to that.

Q. Okay. You made two statements. You said the rim is too narrow and then you said the rim was narrower than recommended.

When was the subject tire in this case first introduced to a Greyhound bus?

MR. POLLAK: You mean the G-409 in general, or this specific tire?

MR. KAPLAN: The specific tire

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involved in this accident.

MR. POLLAK: Okay.

A. I'm not exactly sure. Let me see.

Q. If I told you November of 2005, would you have any reason to dispute that?

A. No, that's sounds about right.

MR. POLLAK: Note my objection to the form.

Q. And then if I told you it was introduced to the bus that was involved in the accident in December 2005, would you have any reason to dispute that?

A. No.

Q. Now, when this -- and by the way, when was this tire manufactured?

A. Sometime in September of --

Q. It was a 3705 tire so that would be sometime in September 2005?

A. 2005.

Q. When this tire was manufactured, was this tire considered by anyone to not be acceptable for use on an 8-1/4 inch rim?

MR. POLLAK: Objection. You can answer.

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A. At the time this tire was fitted to the bus, the Tire and Rim Association had modified its recommendation, so that it would hold 8,000 pounds on an 8-1/4 inch rim.

Q. So in other words, at all times during the life of the subject tire in this case, and what I mean by that is from the moment that it was manufactured until the time that it failed, the Tire and Rim Association approved that size tire from being utilized on an 8-1/4 inch rim. Is that correct?

A. Well, they always allowed this tire to be used on an 8-1/4 inch rim.

Q. So when you refer to it as narrower than recommended --

A. Um-hum.

Q. -- who said that it was too narrow?

A. Well, the recommended sizes for this tire are 9 and 9.75.

Q. Aren't we quibbling with words here? The 8-1/4 inch size is an approved size, is that correct?

A. It's a last resort size. It is a

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size that is not -- that does not follow the engineering design information. That is, when you look at the recommended percentage rim widths to percentage tire widths, the 8-1/4 inch rim simply does not fall in that range. The Tire and Rim Association I would imagine allowed it to be used because there were so many 8-1/4 inch wide 22-1/2 rims around.

Q. In other words it is a very prevalent use combination, isn't that true?

MR. POLLAK: Objection. You can answer.

A. I don't have any idea what it is in terms of market penetration, but I would imagine that the tire has been picked up for use, you know, in replacing the 1275R 22-1/2.

Q. So you imagine the use combination was large enough that the Tire and Rim Association felt some need to approve it?

MR. POLLAK: Objection. You can answer.

A. Well, again the Tire and Rim Association is made up of tire manufacturers. So somebody obviously brought this forward and

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the Tire and Rim Association, the members of the Tire and Rim Association approved it.

Q. Is Michelin a member of the Tire and Rim Association?

A. They certainly are.

Q. If Michelin thought that the 8-1/4 inch size rim was not appropriate on this tire, would they have approve the Tire and Rim Association's approval?

MR. POLLAK: Objection. You can answer.

A. Well, I don't know that Michelin fits a 315/80R 22-1/2 to an 8-1/4 inch rim.

Q. That's not what I asked you. They have some responsibility to the public being a member of the Tire and Rim Association, don't they?

MR. POLLAK: Objection. You can answer.

A. But I don't know whether they get to veto. I don't know whether they have veto authority. I don't know how the Tire and Rim Association actually makes decisions like this. They certainly don't have testing

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capability. The Tire and Rim Association, you know, has a committee for medium radial truck tires and the chairmanship of that committee rotates among the tire makers. So, you know, whether a tire maker can veto anything like this. I don't know.

Q. Have you ever seen any minutes of meetings from the TRA regarding the approval of the 8-1/4 inch rim with the size of the G-409 involved in this case?

A. I have not.

Q. Are you aware of any governing body that disapproves of the use of the 8-1/4 inch rim with a G-409 size tire involved in this case?

MR. POLLAK: Objection. You can answer.

A. No, sir, government bodies don't make that determination.

Q. I said governing body.

A. Governing bodies don't make that determination. It is the Tire and Rim Association -- I'm not sure the ETRTO approves this size on an 8-1/4.

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Q. Are you aware of any industry groups that disapprove of the use of the 8-1/4 inch rim with the size of the G-409 tire that was involved in this case?

A. No, sir. It doesn't mean they don't exist. I'm just not aware of them.

Q. And we do know one that does exist, and that's the Tire and Rim Association. Isn't that right?

A. That's correct.

Q. Would you say that that is the largest and most influential body regarding the matching of Tire and Rim sizes in North America?

A. In North America, yes.

Q. What does over-deflected operation do to a tire which can cause it to eventually sustain a tread separation?

MR. POLLAK: Objection to form. You can answer.

A. It increases the amount of sheer stress at the belt edge between the working belts. It -- and as a result it increases the heat and because it increases the sheer stress

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and the heat, it can cause cracking from the edge of the steel belts into the tire. And that will ultimately lead to a tread separation in the purest sense.

Q. Would you say that long term minimal over-deflection can have the same forensics effect as more severe but short term over-deflection?

A. I don't know whether you can make a generalization like that.

Q. Okay.

A. Again, it is a stress state and duration and speed kind of an issue.

Q. Now, you prepared your initial report in this case in July of 2010, July 28th, correct?

A. I believe so, yes.

Q. When did you start drafting this report?

A. Probably two weeks before.

Q. Is it possible that you started drafting it back in April of 2010?

A. It's conceivable, yeah.

Q. How about earlier than April of

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2010?
A. Maybe.
Q. If you had billed Greyhound for doing work on the drafting of your report, I presume you actually did that work, right?
A. Oh, yes.
Q. Okay.
A. But, again, it -- what did you say, 2008?
Q. No, 2010.
A. Beginning of 2010, okay, yeah, sure.
Q. When would you say that you began drafting the report, the July 28th, 2010 report?
MR. POLLAK: Objection. Asked and answered. You can answer it over objection.
A. Do you have billings from 2010 in that bundle?
Q. Well, I know it goes back at least to the beginning of 2010. I'm asking if you know independently when the date is?
A. No, I don't.

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Q. Do you remember when you first formulated your opinion in this case that there was an issue regarding the puncturability of the C-3 G-409 tire?
MR. POLLAK: Objection to the form. You can answer.
A. Sometime in 2009, in the fall, early winter of 2009.
Q. So you had been investigating the G-409 tire for over two years at that time. Is that correct?
MR. POLLAK: Objection to the form. You can answer.
A. Well, this tire, I did my inspection in mid 2008. Right? So for this tire, yeah.
Q. Well, you were called in to investigate the G-409 tire in relation to the Elizabethtown accident in March of 2007, isn't that correct?
MR. POLLAK: Objection to form. You can answer.
A. That's correct.
Q. And again, as we discussed, the

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process was your attempt to see if you could find what the cause was for the tire failure?
MR. POLLAK: Objection. You can answer.
A. That's correct.
Q. So what I'm saying is, it took you based on your testimony, approximately 2-1/2 years to come up with the conclusion that there was some type of puncture-related issue with the G-409 tire. Is that correct?
MR. POLLAK: Objection to the form. You can answer.
A. If you say so. I'll buy that. I mean, it took --
Q. Well, I'm not saying. I'm basing it on what you are telling me.
A. Yeah, I did an inspection in 2008, middle of 2008. I subsequently got more data about, you know, I got the maintenance desk data. I had to basically rebuild my analysis of constructions and so on that I had done in a limited way for Opelika.
Q. But you began investigating the G-409 tire in March of 2007. Correct?

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MR. POLLAK: Objection to the form. You can answer.
A. I did some preliminary inspections, and then we were off and running on Opelika.
Q. When did you examine all those other tires that you talked about, the ones in Louisville and the other depots?
A. 2007.
Q. And, by the way, did you form your opinion about the puncture resistance of the C-3 version of the G-409 tire, before or after you were given the maintenance desk reports by Greyhound?
A. Before. I definitely wanted to figure out, or at least when I did my analysis I definitely wanted to figure out whether the data supported my conclusion.
Q. And that's because you would tend to doubt the existence of a design defect if there was not data to support the theory of design defect, correct?
MR. POLLAK: Objection to the form. You can answer.

A. Well, certainly when you take a, you know, a perfectly good running tire and you make it weaker, there is some cause for concern. But the, you know, the data certainly supports that, you know, the tire got worse.

Q. Would you have been able to support your theory of a design defect relating to the puncturability of the C-3 design, if there was in your opinion no field data to support that?

MR. POLLAK: Objection. You can answer.

A. Again, I think the field testing, you know, that is represented by the maintenance response desk data, basically is, is just that. It is field testing of hypothesis.

Q. Well, I'm going to address that data later --

A. So you have a hypothesis about a tire failure, all right, from the standpoint of pure physics, you know, it is reasonable. On the other hand, you know,

without the kind of field test or field data you get, it's, you know, it is -- I think it becomes more difficult to be absolutely certain that you have a design defect in the tire.

Q. Would it be fair to say that without the field data, and I put that in quotes, that you referred to, that you would not be able to conclude to a reasonable degree of engineering certainty that the C-3 G-409 tire did have a design defect?

MR. POLLAK: Objection: asked and answered; also to the form. You can answer.

A. Well, I think the C-3 design is a weaker tire. The issue is, is it too weak for the service intended, and the only way to do that is to look at field data. And the only field data out there is, you know, is the maintenance response desk data.

Q. So is it fair to say that without that, in quotes, field data that you referred to, you would not be able to conclude to a reasonable degree of engineering certainty

that there was a design defect in the C-3 G-409 tire which caused the tire failure in Elizabethtown?

MR. POLLAK: Objection: asked and answered. Objection to the form. You can answer.

A. I think I've answered the question.

MR. KAPLAN: Can you reread it to him again because I don't think he has answered it, and with all of the obstructing objections, it may be confusing to the witness.

(Record read.)

A. Again, I think, you know, I would conclude there was a design defect. Whether I could support it or not is another story.

Q. So it would be an unsupportable claim of a design defect without the field data, in quotes, that you referred to?

MR. POLLAK: Objection. You can answer.

A. Again, it is my opinion.

Q. Well, your opinion, for legal

purposes, has to be based on evidence and it has to be to a reasonable degree of engineering certainty. So what I'm asking you is, if you did not have the field data which you claim exists in the maintenance desk reports, would you be able to make the conclusion that the C-3 G-409 tire was suffering from a design defect which caused the Elizabethtown accident?

MR. POLLAK: Objection: asked and answered. You can answer.

A. And I think the answer to that is yes. The puncture in this case is one of just barely. So when you go from a denser wire design to a more open wire design, just barely in the more open wire design becomes not quite in the closed, the more closed design.

Q. That all depends how the screw hits the tire, right?

MR. POLLAK: Objection.

A. But in this particular case, in this particular instance, it is a case of just barely.

Q. What was the speed that the bus

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was operating at at the time that the subject tire sustained the puncture with the screw?

A. No one knows.

Q. What was the pressure, the air pressure in the tire at the time that it made contact with the screw that caused the puncture?

A. The last recorded pressure in this tire is 115 psi.

Q. Well, that's not what I asked you, is it?

A. No. Nobody knows.

Q. Do you know what position or angle the screw was when it encountered the tire?

A. No, sir. It went straight into the steel belt, but no idea what it looked like on the road.

Q. Is there anyway for you to predict that this screw would not have punctured a pre-C-3 G-409 tire?

MR. POLLAK: Objection to the form.

A. That's my opinion. It would not have punctured that tire. Based solely on the

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fact that the aerial density of the C-3 tire is less than the aerial density of the C-2 tire.

Q. Are you saying that a screw of this type could not have punctured a C-2 tire?

MR. POLLAK: Objection: asked and answered. You can answer over objection.

Q. A C-2 tire.

A. That's not what I'm saying.

Q. Well, let me ask you that question. Are you saying this screw could not have punctured a C-2 G-409 tire?

MR. POLLAK: Objection: asked and answered. You can answer over my objection.

A. This screw in this particular instance would not have punctured a C-2 tire in my opinion.

Q. When you say in this instance, you don't know what the speed was. Correct?

A. That's correct.

Q. You don't know what the air inflation of the tire was?

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A. That's correct.

Q. You don't know what type of road surface this occurred on?

A. That's correct.

Q. You don't know what type of angle the screw was when it encountered the tire, isn't that correct?

A. That's correct.

Q. But you are still saying that it is impossible for this screw to have punctured a C-2 G-409 tire?

MR. POLLAK: Objection: asked and answered for the third time.

A. What I'm saying is, I know that the energy that in this puncture associated with this screw was just barely enough to get the tip of the screw through the inner liner on a C-3 tire. So if I change -- if I go back to the C-2 density, then it is more probable than not that that puncture would not have gone through that tire.

Q. Isn't it possible that the screw could have gone through a C-2 tire without running into the same amount of steel that it

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encountered when if went through the C-3 tire?

A. You asked me about this specific instance. So whatever steel cord it hit, it would hit more of the same steel cord in the same location.

Q. And if it hit more of that steel cord, isn't it possible that more of that steel cord would have penetrated the inner liner?

A. No. Because the tip of the screw would not have gone through the inner liner.

Q. That's not what I'm asking you. Is it possible for the screw to have driven more steel through the C-2 tire than what happened in the C-3 tire?

MR. POLLAK: Objection: asked and answered several times. You can answer again.

A. The answer is absolutely not, because, again, the screw has to pull the steel through the inner liner. So if the screw never gets through the inner liner, the steel cord never gets through the inner liner.

Q. Well, how do you know there wasn't

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enough energy for the screw to pull a little extra steel through into the inner liner?

MR. POLLAK: Objection to form. You can answer.

A. I'm sorry?

Q. When you are making an energy calculation, how do you determine what the energy was involved here when this screw penetrated the tread of the C-3 tire?

A. I don't even understand the question.

Q. Well, I don't understand what you are saying. It makes no sense. If you have a screw that's penetrating a tread area of a tire, how can you say that if the screw makes contact with wire under the exact same conditions, that it isn't going to cause additional wires to be pushed through into the inner liner?

MR. POLLAK: Just note my objection. Mr. Kaplan, you can ask the question over my objection, but if you are going to start telling this witness that his answers don't make sense, it is

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a problem for me I don't think appropriate for a deposition. So if you please refrain from your own commentary when you ask the question of this witness. I don't think it is respectful.

But over objection you can answer the question.

MR. KAPLAN: Well, I think you have to stop telling the witness that he has answered the question because he hasn't.

A. Well --

MR. POLLAK: It is an objection that I have a right to make to preserve the record and that's what I'm doing. I'm not speaking to the witness. I'm speaking to the record.

MR. KAPLAN: Well, technically all objections except for form are preserved until the time of trial. So I'm not sure what right you are speaking of.

But anyway, could you read back the last question.

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MR. POLLAK: With my objection included. I mean, not to say it, but the objection is there.

(Record read.)

MR. POLLAK: You have my objection, correct?

A. Okay, then we need to go back to when I was describing, you know, what actually happened, my opinion about what actually happened in this accident, or in this puncture.

The screw cuts the wire. The thread of the screw drags the wire tip into the inner liner and the screw pulls back. If the screw never gets through the inner liner, then it can't pull any wire into the inner liner.

So, so if the -- this business of, you know, if the screw encounters more wire, why won't it bring more wire into the inner liner? Because it never gets there.

Q. Could you show me where in your report you say that the screw dragged wire into the inner liner?

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A. Probably not.

No, I can't.

Q. What's the difference between forced and dragged?

A. No difference at all.

Q. Well --

A. Other than, other than the only way the screw can capture and pull a wire is if it traps it between the edge of the screw and the rubber. That is, the screw can't impale a section of wire and push it ahead of itself.

Q. Could you show me where in your report you used the term pull?

A. No.

Q. It doesn't exist in your report --

A. I doubt that I even used that term.

Q. Right.

A. Okay.

Q. By the way, what is the puncturing entity in this case?

A. The screw.

Q. Now, at the top of page 11 of your

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report, and I'm quoting from you, you say:
"The puncturing entity, the screw did not completely penetrate the tire."
Did I read that correctly?
A. Yes.
Q. And the sentence after that says:
"Instead, the puncturing entity cut the edge of a steel cable and forced a tread reinforcement wire through the inner liner."
Did I read that correctly?
A. Yes, you did.
Q. Can you show me anywhere in your report where you say that the puncturing entity itself, the screw, actually penetrated into the inner liner?
A. Probably not, no.
Q. This theory that you have appeared to have come up with today, have you done any testing to confirm the mechanism of what you say happened, the screw pulling wires into the inner liner? Have you done any type of testing with tires to replicate that?
MR. POLLAK: Objection to form.

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You can answer.
A. No.
Q. Do you know anybody who has?
A. No, sir.
Q. Do you know if anybody has written any peer-reviewed articles or journals describing such testing?
A. No.
Q. Let's go back to your report. On page 3 on the background section, you are describing in the first paragraph that there were 52 passengers on board the bus at the time of the accident. Correct?
A. That's correct.
Q. How many passengers was this bus rated for?
A. 52 I think.
Q. Can you check the NTSB report because I believe it is a 55-passenger bus.
A. This is the operation testing. Do you have the factual report somewhere? There it is.
55 passengers, you are correct.
Q. And is there any indication that

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the bus was carrying any freight?
A. No, sir.
Q. So as far as we can tell, this bus was not fully loaded at the time of the accident, correct?
A. Well, every seat was not full, that's correct.
Q. Well, it is rated for 55 passengers. Is that correct?
A. That's correct.
Q. And they have three less than 55?
A. That's correct. And we don't have any idea what those -- or at least I don't have any idea what those passengers weighed or how much luggage they had.
Q. They could all have been very light, right?
A. Or they all could have been very heavy or they could have had multiple bags or whatever.
Q. Don't know that?
A. I don't know.
Q. In fact, when Greyhound loads its buses, it doesn't weigh its passengers, does

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it?
A. No, sir.
Q. It doesn't weigh the luggage that the passengers bring on, does it?
A. No, sir.
Q. And the reason why it doesn't do that is because it uses the calculations on chart that we spoke about a little while ago, Exhibit 2, isn't that correct?
MR. POLLAK: Objection to the form. You can answer.
A. I don't really know.
Q. Well, they use the standard 150 pounds per passenger and 35 pounds per luggage, correct?
MR. POLLAK: Objection to the form. You can answer.
A. My understanding is that's how MCI designs the bus.
Q. Well, MCI designed this bus to be used with 8-1/4 inch rims and 315/R80 22.5 tires, correct?
A. The placard says 12R75R22, or 1275R 22-1/2 tires.

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Q. Is the placard correct or wrong?
A. Well, the placard is what's supposed to be correct. Obviously, an 8-1/4 inch rim is perfect for that. Unfortunately, that tire isn't perfect for a 16,000 pound axle.
Q. Right. Now, there is no question, though, that the right tire, run at the right inflation was well known to Greyhound, regardless of what the placard says?
MR. POLLAK: Objection. You can answer.
Q. Well, Greyhound knew it was going to run 315/R80 22.5 tires at 120 psi on the drive axles. No question about that, right?
A. I don't believe so. Although there was some confusion evidently in the first of the 102DL3s.
Q. Well, that's, you are talking about the 1990s?
A. Yes.
Q. I'm talking, though, 2005, 2006.
A. Okay.
Q. Have you looked at the K 91 in

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this case which was the maintenance guide that Greyhound prepared for tire servicing in this case, or in this situation?
A. Not in this case I haven't, no.
Q. Have you looked at the service lane service guides that were prepared by Greyhound for their engineers to use when maintaining and inflating tires that were mounted on the 102DL3 buses?
A. No. I wasn't aware they had engineers working the service lanes.
Q. Do you have --
A. Again, I wasn't asked to look at Greyhound procedures.
Q. Let's say Greyhound maintenance people. You are aware Greyhound maintenance people were working in the service lanes?
A. But, again --
Q. Is that correct?
A. Sure. But I wasn't asked to look at service procedures or maintenance procedures or anything like that.
Q. If I represent to you that in all of these documents that were given to the

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Greyhound personnel, it was made clear that the drive axle tires on the 102DL3 buses had to be inflated to 120 psi, would you have any reason to disagree with me or doubt that?
MR. POLLAK: Objection to the form of the question. You can answer.
A. Again, I don't have -- I have no knowledge of the operational procedures or maintenance.
Q. By the way, this bus as indicated in your report had operated with 8-1/4 inch rims and 315/R80 22.5 tires for approximately 988,215 miles. Is that correct?
A. That's what the service was at the time of the accident approximately.
Q. Now, at the bottom of page 3 -- by the way, do you have any reason to doubt that the drive axle on this bus could not support a load of 16,000 pounds?
A. I don't have any reason to believe the drive axle couldn't support the 16,000 pounds.
Q. I'm sorry, the steer axle?
A. The steer axle itself?

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Q. Yes.
A. The steer axle itself I believe is rated at 16,500 pounds according to MCI documents. So 16,000 pounds would have been well within its capability.
Q. Do you have any reason to doubt that the wheel, the wheels that were mounted on the steer axles could not sustain weights of 8,000 pounds each?
A. The wheels according to the documents are rated at 8,000 pounds, yes.
Q. Do you have any reasons to conclude that the G-409 tires that were mounted on the wheels on the steer axle of the Greyhound bus, could not support a weight of 8,000 pounds each?
A. There is absolutely no testing data to support that they can.
Q. The question was, do you have any reason to conclude that those tires could not support a weight of 8,000 pounds each?
MR. POLLAK: Objection. You can answer.
A. Well, the original rating was 7610

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pounds on an 8-1/4 inch wide rim.
Q. And what was it in 2005?
MR. POLLAK: Objection, you can answer.
A. It was raised to 8,000 pounds, but there is no support for that, none.
Q. No support by whom, you mean by the TRA?
A. By the T&RA, by Goodyear, by anybody. Goodyear never did any testing on an 8-1/4 inch wide rim.
Q. Are you aware of any testing from any other manufacturer as to whether or not a tire of this size could support 8,000 pounds?
A. No, sir.
Q. Do you have any evidence which in any way indicates that a tire of this size, specifically the G-409 tire, could not support a weight of 8,000 pounds?
MR. POLLAK: Objection. You can answer.
A. Having no test data, doesn't automatically say it is acceptable.
Q. That's not what I'm asking. I'm

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asking you do you have any data which supports a conclusion that this tire could not support a load of 8,000 pounds?
A. No. I have no personal data, no.
Q. Does the Department of Transportation have any tests that are designed for tires to pass before they can claim that they have a certain load rating?
A. No.
Q. Who does?
A. Pardon me?
Q. Does anybody?
A. No sir.
Q. Are any of these tests contained in the FMVSS 119 tests?
A. The FMVSS 119 testing is testing that was originally designed for bias plied tires, and is designed to test to see if a tire is minimally acceptable on its design rim on a 9, in this case a 9-inch rim.
Q. Minimally acceptable to whom?
A. For highway service.
Q. To whom, though? Who sets those tests and guidelines?

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A. The NHTSA, National Highway Traffic Safety Administration.
Q. And they are part of the Department of Transportation?
A. They are.
Q. And do they have any other tests that are used in any other way to determine load capacity of a tire?
A. No, sir.
Q. And did Goodyear have the G-409 tire tested pursuant to those tests?
A. Yes, sir.
Q. And did the Goodyear G-409 tire pass those tests?
A. As far as I know, it did.
Q. And in fact it passed those tests by a considerable margin, isn't that correct?
MR. POLLAK: Objection as to form. You can answer.
A. It depends on which tests you are talking. Plunger energy?
Q. Well, do you -- the plunger energy or any of those tests. Did it pass every one of those tests?

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A. No modern radial tire will fail plunger energy, okay.
Q. Well, is there any test that the Goodyear G-409 tire failed?
MR. POLLAK: Objection. You can answer.
A. Not that I'm aware of, not for FMVSS 119.
Q. Are there any other tests?
A. If there aren't, you know, shame on Goodyear.
Q. Well, what other tests are there that are recognized by the industry?
A. Well, each tire maker makes up its own tests.
Q. Are there any industry standards?
A. No, sir.
Q. So you can't say that Goodyear violated any industry standards, can you?
A. Again, if they didn't have considerably more testing than what's been produced, that seems strange to me.
Q. That's not what I asked you. I asked you did Goodyear violate any industry

standards?
A. There are no industry standards.
Q. So they could not have violated them?
A. They could not have violated what doesn't exist, that's correct.
Q. Now, you also recorded in your report the mileage that the bus was operated on the 28th of August of 2006, correct? I think at the second-to-last line you indicated it went about 365 miles that day.
A. Yes, sir.
Q. Do you know how many miles the bus was driven that week?
A. No, sir, I don't.
Q. And by the way, you indicate on page 4 in the second paragraph, last line, that this tire had about 91,000 miles of service, correct?
A. That sounds about right, yes.
Q. So that would mean this tire was entering the last third of its use life?
A. No, sir.
Q. Well, it was designed for 140,000

miles pursuant to --
A. First tread life, yes.
Q. Was Greyhound using this tire in a retreadable situation? Was Goodyear having the G-409 tires retread?
A. Not that I know. That doesn't mean that Goodyear wasn't retreading them. It is a retreadable tire.
Q. Operating on three belts is what we discussed?
A. Whatever. Whether you retread it with four belts or you retread it with three belts, it is still a retreadable tire.
Q. Now, at the bottom of page 5 of your report, you talk about the OSS shoulder rib wear, and you say that that wear would have been very recent. Can you explain that.
A. Sure. Sub-tread rubber is a good 10 points durometer hardness softer than the tread rubber.
Q. No, what I meant was what did you mean by very recent, days, hours, weeks or in terms of how many miles it would have created to cause that?

A. It could have occurred that day. You know, it is really a section of peak-through. There is a section where the sub-tread rubber is showing through, and, you know, once that starts to happen, you know, it expands very quickly. So the question is, you know, I don't think anybody can say it didn't happen that day. It might have been two days or something like that, but it certainly wasn't very long.
Q. And this is different than the shoulder wear that you described just before that, that you said would have been the patterns referred to by Mr. Jeffries?
A. Absolutely.
Q. Now, the polishing that you found, that was only in the piece labeled No. 12, correct?
A. That's correct.
Q. And did you find polishing anywhere else?
A. Of the pieces that were left, no.
Q. Were there any pieces that you had available to you for examination where you

might have expected to see polishing but didn't?
A. No, sir.
Q. Now, you have said that this was consistent with a preexisting progressive breakdown, and we talked -- this is what we talked about earlier, how long the polishing would have been there?
A. Correct.
Q. And then as we get farther down you talk about your leak rate which was 0.024 psi per minute?
A. That is my estimate, yes.
Q. Using a calculator, that's about 1.44 psi per hour?
A. I believe so, yes.
Q. Now, over a 48-hour period, if the tire was leaking at that rate it would have lost approximately 69 psi, correct?
A. That's correct.
Q. So if it had been inflated to 120 psi, in other words the pressure would have been down to 51 psi?
A. That's correct.

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Q. And over 36 hours, it would have lost 51.8 psi, correct?
A. Yeah, I haven't done that math, but sure, that sounds about right.
Q. All right, and then if it had been there for 24 hours, in other words if it had happened the evening of the 27th, then it would have been reduced 34.5 psi at the time of the accident?
A. That's correct. That sounds about right.
Q. Now, on the next page, page 7, again, we talk about the use of a narrower than recommended wheel width. This is what we covered before when we had our discussion about whether or not it was approved by the TRA, correct?
A. That's correct.
Q. On page 8 you talk about the vehicle placard. Who prepares the vehicle placard?
A. The vehicle manufacturer.
Q. Goodyear doesn't prepare that?
A. No, sir.

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Q. Greyhound doesn't prepare that?
A. No, sir.
Q. Now, we discussed the time when the screw would have entered the subject tire, and your testimony and your report says it has to be, it had to have occurred on the day of the accident. Is that correct?
A. Based on the leak rate, yes.
Q. Do you base it on anything else other than your leak rate?
A. That's the primary consideration is the leak rate. The leak rate that I have computed from the data basically is too large to support the tire having been -- having had that leak for days and days.
Q. The data that you utilized to determine the leak rate, did it have any variables?
MR. POLLAK: Objection to the form. You can answer.
Q. Well, you made estimations, right?
A. Sure.
Q. So is there a tolerance level for your leak rate? Could it have been a little

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slower than what you calculated?
A. Could it have been plus or minus 5 percent, sure. Could it have been any larger or smaller than that, probably not.
Q. And that was the main factor you said. What were the other factors, if any, for your conclusion?
A. For my conclusion about what?
Q. The puncture occurring on the date of the occurrence.
A. Again, there is --
MR. POLLAK: Objection to the form of the question.
A. There is really no evidence that the tire was, you know, dramatically leaking. If you look at the recorded pressures for this tire, over any length of time, I mean, other than the last recorded, basically the pressures have been, you know, within 5 psi of 120 every where, except when it is overinflated to 130 or 132, right.
Q. Now, that would be for the time period before August 18th, 2006, correct?
A. That would have been through -- I

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guess the last, the last recorded pressure was August 18 I think, where it was 115 psi.
Q. Right. And after that air pressure reading on August 18th, was the air pressure ever again taken?
MR. POLLAK: Objection to the form of the question. You can answer.
A. Not to my knowledge.
Q. So that's approximately a ten-day period?
A. That's correct.
(Discussion off the written record.)
THE VIDEOGRAPHER: You might want to ask what you just said over.
MR. KAPLAN: Can you read back the last question.
(Record read.)
Q. In your report you speak about the inspections that Marshal Clark did, Brian Lancaster did and Mr. Burgess did.
A. That's correct.
Q. Do you use those inspections as a basis for concluding that the tire did not

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sustain its leak until the date of the occurrence?

A. Based on my leak rate estimate, those inspections would indicate to me that the tire had not been punctured at that time.

Q. Well, what is it about Mr. Clark's deposition testimony that indicates to you that the tire was not punctured on August 22nd when he performed his federally mandated inspection of the bus?

A. Because from August 22nd to the accident date, August 28, you know, six days later the tire could not have had that leak rate without being flat.

Q. That's of course assuming your leak rate is correct. If the leak rate was much slower, it is conceivable that the tire could have been punctured on August 22nd when Mr. Clark did his examination?

MR. POLLAK: Objection to the form.

A. Well, there is no possibility the leak rate could have been lower.

Q. None whatsoever?

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A. None whatsoever. The -- okay.

Q. Mr. Clark didn't use an air gauge, did he?

A. Not that I'm aware of.

Q. In fact, did anybody use an air gauge after August 18th, 2006 to measure the air pressure?

MR. POLLAK: Objection.

A. Not that I know of. There was no recording of it.

Q. And bump checks that were done, bump checks just tell you whether or not a tire is flat or has some air in it, correct?

A. It tells you whether the tire has inflation pressure.

Q. So the tire could have 40 psi in it and the bump check wouldn't necessarily tell you anything, would it?

A. Well, again, the NTSB when they looked at deflection, you know, said below 50 psi, and I think that's probably being very conservative, but they determined that below 50 psi would be visually obvious.

Q. Visually, okay. So I'm asking you

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just from a bump test alone, can a bump test tell you anything?

A. Not reliably.

Q. So let's say it is 55 psi. The NTSB says you probably can't see if a tire is under-inflated at 55 psi, correct?

A. That's correct.

Q. And you wouldn't be able to tell whether or not a tire was down to 55 psi based on a bump check alone, isn't that correct?

MR. POLLAK: Objection. You can answer.

A. That's correct. Although a tire ought to really be getting hot every time it is operated. So if you think about running the tire day after day when the pressure is in the 50s, I would expect to find zipper failures on the sidewall occurring. Because on this tire, any pressure below about 90 is going to lead to zipper failure.

Q. And for how long a period of time?

A. Well, for hundreds of miles, you know, I would expect to generate sidewall failure.

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Q. Well, a bump check, obviously, wouldn't be able to tell you if the tire was down to 100 psi, would it?

A. No, it wouldn't.

Q. And a visual check wouldn't tell you if the tire was down to 100 psi either, would it?

A. That's correct.

Q. So at 100 psi you might not get a zipper break to occur that quickly. In fact, you might get enough heat degradation to cause a tread separation before that, isn't that correct?

MR. POLLAK: Objection to form. You can answer.

A. I don't think so. Typically, you have to be, you know, you have to, you have to really -- if the tire doesn't have some ongoing breakdown in it, you have to run at 10 to 15 percent under-inflated for thousands and thousands of miles to get to tread sep -- to actually generate or respond a tread separation.

Q. Don't zipper breaks

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characteristically occur upon reinflation after a tire's been run low?
A. Yeah, and -- but they can also spontaneously occur just because the tire is being run and run and run and run very low.
Q. Do we know when air was last added to this tire?
A. No, sir.
Q. Now, when you calculated your leak rate, you, you looked at the video that had been prepared by the NTSB, isn't that right?
A. That's correct.
Q. Now, what did you do with that video: did you break it down frame by frame, did you use one frame, did you use several frames? How did you make your calculations?
A. Okay. I ran the video against a stop watch to calculate the number of bubbles that were being generated per second. Okay.
Q. And how many bubbles were being generated per second?
A. Let me see here. I --
Q. Which attachment? You are referring to one of the attachments, right?

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A. Yeah, tab 12 in the binder, the depo binder. I'm not sure which attachment it is in the report.
MR. DACUS: 5.
A. Attachment 5? Okay.
Q. Okay, so --
A. So I counted 15, 15 bubbles.
Q. When you say you counted 15 bubbles, you indicated that you were measuring bubbles per second?
A. Right, so I counted 15 bubbles over .9 seconds on the stopwatch which gives you a rate of 16.7 bubbles per second.
Q. How did you -- you counted the number of the bubbles while the video was running?
A. Yes.
Q. You were able to count 15 bubbles in .9 seconds?
A. Yes.
Q. Is it possible you made a mistake with how many bubbles you counted?
A. I did it three times.
Q. Over the same .9 seconds or

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different periods of time?
A. I don't know whether it was exactly the same set of frames. It was probably overlapping frames.
Q. Well, were you counting bubbles twice?
A. No, no, no. I'm talking about three separate measurements, starting from zero each time.
Q. But how long is the video?
A. It is just a few seconds long.
Q. How many seconds?
A. It is probably six seconds, eight seconds.
Q. Okay, so the .9 seconds that you are talking about, was that the same .9 seconds that you counted over and over?
A. As close as I could get.
Q. The same .9 seconds?
A. As close as I could get.
Q. Did you count any of the other time periods?
A. No, I did not.
Q. Did you compare those time periods

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to see whether or not less bubbles or more bubbles appeared during those 5.1 seconds?
A. Okay, when I play the video, the bubble rate seems from an audio standpoint to be about the same.
Q. What do you mean it seems from an audio standpoint?
A. It sounds like, like the bubble rate, the bubble frequency is constant.
Q. So you were not just counting bubbles, you were listening to bubbles?
A. Sure.
Q. And when you were doing this you were able to count 15 different popping sounds within the space of .9 seconds, is that what you are saying?
A. Yes, sir.
Q. And you are saying that there is absolutely no margin for error in your ability to count bubbles popping over .9 seconds?
MR. POLLAK: Objection: asked and answered. You can answer.
A. All I'm saying is I did it three different times and came up with the same

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number.
Q. Over that same period, the .9 seconds?
A. As close as I could get it.
Q. Again, what about the other 5.1 seconds?
A. Again, the video is skipping, it is stepping so you have to find a place where the video is continuous.
Q. What do you mean it is skipping and it's stepping?
A. You obviously never watched the video.
Q. I'm asking you to tell me what you mean. You are using terms: skipping, stepping. What does that mean?
A. Darn terms. It means that the video --
Q. The terms have a meaning and you can use them to kind of fudge facts in a way that you want. That's why I'm trying to get you to explain them.
A. Well, the video, in a couple of sections in the video, so, you know, there is

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probably six seconds of the video and in two or three places the video does a skip, and I'm not sure whether it is because whoever was making that recording was using a lousy video recording tool, or whether they were doing it on their cell phone or what, but there is a hiccup. So you have to find a place in the video where there is no hiccup, otherwise you are not sure that you have missed bubbles or that the time is continuous or anything. Obviously, if the video skips, there is a jump in time.
Q. So what you are telling me is you can't tell me whether or not the production of bubbles was at a consistent rate over a period of six seconds?
MR. POLLAK: Objection. You can answer.
A. Again, in my opinion it was consistent.
Q. Again, your opinion based on what?
MR. POLLAK: Objection. You can answer.
A. The auditory sound that came from

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the video, the rate at which the bubble -- the rate at which bubbles are being made.
Q. And that's the popping sound?
A. That's the popping sound.
Q. 90 of them you heard in six seconds?
A. Again, the rate seemed consistent, the frequency of bubble occurrence.
Q. Well, could you tell the difference between 70 bubbles popping and 90 bubbles popping over a period of six seconds?
A. Well, let's see, 60 bubbles over 6 seconds is ten a second, right? Roughly? Ten a second is a fairly low count rate. 15 a second is something that is auditorily of a given frequency; that is, you notice if it speeds up or slows down.
Q. Do you think you could create for a jury looking at this deposition what it sounds like, ten popping bubbles in one second? I'll time you.
A. No. I would suggest we simply play the video for the jury because that's clear.

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Q. And how about the difference between ten bubbles and 15 bubbles per second, can you differentiate for us what that sounds like by making the sound of the bubble?
A. No.
Q. What did this pop sound like? Can you recreate the sound?
A. No, sir. I'm not a sound generator.
Q. Are you an expert in the sounds that bubbles make?
A. I have grand kids, they play with bubbles all the time.
Q. Do you count the bubbles that they blow in their milk with their straws?
MR. POLLAK: Objection.
Q. Is that where you got practice for this method?
MR. POLLAK: Come on.
Q. Well, let me ask you this. If I wanted to read somewhere about this method of counting bubbles and bubble frequency in a video, is there some place I could read this or read about it?

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A. No, sir.
Q. Is this a practice that is accepted and followed in the tire industry?
A. This is nothing but physics.
Q. That's not what I asked you. Is this an acceptable means to determine the flow and rate of flow of air from a puncture in a tire, according to the tire industry?
A. Nobody in the tire industry cares about the air flow rate out of a tire in a puncture. They don't.
Q. In fact, when the NTSB did this test, they weren't trying to determine what the air flow was, correct, the rate of flow?
A. They were trying to determine whether it actually leaked.
Q. That's right. And in fact, that's what this kind of test is for, just to determine whether there is a leak and where the leak is coming from, correct?
MR. POLLAK: Objection. You can answer.
A. But it represents a test that can be used to estimate the leak rate.

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Q. Based on your ipsi ditzig or can I read about that anywhere else?
MR. POLLAK: Objection to the form. You can answer.
A. Again, a bubble of a given size has a given internal volume.
Q. Okay. How did you determine what the size was of the bubbles?
A. I scaled them off the video.
Q. And what did you use to scale the size of the bubbles?
A. Spacing between the belt cord is the reference.
Q. And was that a precise measurement that you were able to make?
A. Well, I know what the spacing in the belt cord was.
Q. Right?
A. Okay. And then I blew the whole thing up on the screen and measured the bubble, measured the bubbles, relative to a scale that was generated between the steel cords.
Q. Was the video being shot straight

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down at the bubbles or at a angle?
A. That's why you have to scale off the steel cord.
Q. So what you get is a two-dimensional picture of the bubble, right?
A. Right. But the bubbles are round.
Q. Well, you get a two-dimensional picture of the bubble, correct?
A. That's correct.
Q. So when you said you measured the bubble, what exactly did you measure? You measured width?
A. Diameter and length.
Q. Diameter?
A. Um-hum.
Q. Okay. In order to determine the volume of a bubble, you have to make a three-dimensional calculation, don't you?
A. The bubble is a sphere. It only has one --
Q. Are all the bubbles the same size?
A. Essentially, yes.
Q. Essentially, or were they the same size?

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A. They were the same size.
Q. Were the bubbles perfectly spheroid or were they irregularly shaped?
A. Bubble origination is spherical. After they --
Q. Do you have a picture which shows the bubbles?
MR. POLLAK: Mr. Kaplan, you keep interrupting the witness.
MR. KAPLAN: I don't keep interrupting him.
MR. POLLAK: You have, maybe the last two or three answers or four answers.
MR. KAPLAN: Okay. All right.
MR. POLLAK: So please let the witness answer the questions before you ask your next question.
A. No, I don't have the leak test picture.
Q. Do you have any picture that would show that these bubbles are all the same size?
A. I don't have the leak test picture.

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Q. Do you have any measurements that show that the different bubbles depicted in this video were the same size?
A. Well, I measured the bubble diameter at .15 inches.
Q. But you measured if from a two-dimensional perspective, is that correct?
A. That's correct.
Q. Can a bubble be flat and another bubble be higher up than the other bubble?
A. If you have a sphere and you measure, no matter which way you measure it from, you are measuring the diameter.
Q. Well, there are irregular-shaped spheres, aren't there? Not all spheres are perfect globes, perfect circles?
A. Not all -- spheres are perfect circles.
Q. Are all of these bubbles perfect spheres, is that what your testimony is?
A. When they originate at the hole, they are a sphere. Once they merge into other bubbles, they develop a membrane between them.
Q. Well, when they come out of the

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hole, they come out at a certain size because the hole limits what the size of the bubble can be, correct?
A. No, the bubble --
Q. When it is coming out of the hole?
MR. POLLAK: Mr. Kaplan, again, the witness is obviously not finished with his answer which I think is obvious, will be obvious on this video and you keep -- if he pauses in an answer, you start asking your next question, as opposed to letting the witness answer. Can you please let the witness completely finish your question before you start your next question.
A. I --
Q. Are you not finished?
A. I don't remember the question, no.
Q. What I'm asking you is, do you have any evidence to show that the bubbles that you mentioned were perfect spheres?
A. The leak test video speaks for itself.
Q. I'm asking you do you have

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evidence that shows that these bubbles that came out were perfect spheres?
MR. POLLAK: Asked and answered. You can answer.
A. I would answer that the leak test video speaks for itself. You know, we would play that.
Q. Can an air bubble be compressed in a way where it is not a perfect sphere, but it has less height than width?
A. Anybody that has played with soap bubbles, knows that you can compress a bubble, but you can't change its volume.
Q. And if a bubble has irregular measurements, isn't that possible for a bubble to have irregular measurements?
MR. POLLAK: Objection. You can answer.
Q. In other words, it is not a perfect sphere?
MR. POLLAK: Objection. You can answer.
A. Sure.
Q. So if a bubble is not a perfect

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sphere, then how do you determine the radii to use in calculating the volume?
MR. POLLAK: Objection. You can answer.
A. Again, you look at the video. The bubbles are spherical. You make a measurement of their diameter. You calculate their volume. You know the rate that it is producing bubbles, and then you estimate the leak rate from that.
Q. What is the measurement that you make of the bubble, what are the measurements that you take?
A. The diameter.
Q. How do you get the diameter?
MR. POLLAK: Objection. You can answer.
A. Again, on the video.
Q. The diameter is the two-dimensional measurement around the circumference of the bubble?
A. Yeah, it's, again, a bubble in free air.
Q. Is the bubble in free air or is

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the bubble resting on a portion of the tire?
A. Well, it is certainly not trapped between two surfaces that would cause it to distort.
Q. Well, were these bubbles floating in the air above the tire or were these bubbles that had formed on the surface of the tire piece that was being tested?
A. Well, you look at them as basically, they come out and they are sitting, before they get combined into the rest of the bubble mass, they are bubbles. And you see them forming one after another and you pick them up after they've detached from the hole but before they've been combined into the rest of the mass.
Q. Where are the bubbles physically resting at that point in time when you look at them?
MR. POLLAK: Objection. You can answer.
A. Typically resting on the tire surface.
Q. Can you tell how far up the

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circumference of the bubble is that rises off of the tire surface?
MR. POLLAK: Objection.
Q. In other words, is each bubble the same perfect shape, or do some bubbles come up higher or actually a little bit lower in terms of where the surface of the tire is?
MR. POLLAK: Objection. You can answer.
A. The bubbles are the same size as they are coming out, as they are being produced. So the definition of a soap bubble is one that has sufficient surface energy in the film to encompass air of the same pressure on the inside as it is on the outside.
Q. How many of these bubbles did you measure?
A. Probably five or six.
Q. And based on -- and how many bubbles did you see throughout the whole video?
A. Well, you see a lot of bubbles throughout the video. But the ones I counted, you know, I counted basically 15 bubbles.

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Q. And you measured five?
A. And I measured five for diameter, yeah.
Q. And did you measure it from a quick view of the video, or did you use a frame from the video?
MR. POLLAK: Objection. You can answer.
A. I stopped the video in a couple of places and measured bubbles.
Q. Now, when you said you stopped it in a couple places, in terms of how much time had elapsed, how much time had elapsed from the first time you stopped the video to the second time you stopped the video?
A. However long it takes for the computer to stop the video.
Q. And were you able to tell whether or not a new bubble had formed in between the time after you first stopped it until the time that you stopped it again?
A. Well, certainly the video changed, so, yeah. It's not the same frame.
Q. Were you able to match it up frame

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by frame to see how many bubbles appeared every second and which bubbles were new and which bubbles had already been there for a period of time?
A. I certainty didn't match it frame by frame, no. I don't have the tools to do that.
MR. POLLAK: It is 4 o'clock. Let's take a break.
MR. KAPLAN: Okay.
THE VIDEOGRAPHER: We are now going off the record approximately 3:52 p.m. This is the end of tape No. 4.
(Recess taken.)
THE VIDEOGRAPHER: This is the beginning of tape No. 5 in the Daws deposition. We are going back on the record approximately 4:05 p.m.
BY MR. KAPLAN
Q. Have you ever read any journals or peer review literature which describes the utilization of the air bubble measurement and listening to tests that you've described as an approved method to calculate the air flow from

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the hole of the tire?
A. No, I have not.
Q. Does the volume of a gas change with pressure and temperature?
A. Yes, it does.
Q. Do you know what the temperature was when this test was performed by the NTSB?
A. No, I don't.
Q. Do you know what the pressure was?
A. No, I don't.
Q. When the bubbles appeared in the video, the tread wasn't attached to the inner liner portion, was it?
A. The tread is never attached to the inner liner portion of the tire.
Q. In other words, the test was conducted by forcing a certain amount of air through a piece of a tire, correct?
A. Through the inner liner and all -- the body ply and all four steel belts.
Q. Was there any tread attached to that part of the tire?
A. No, sir.
Q. Are you an expert in the mechanics

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of air transport through water?
A. I hold a Ph.D. in mechanical engineering. I've studied in detail, air flow and how to model it and so on, so.
Q. Do you consider yourself an expert in the mechanisms of air transport through water?
MR. POLLAK: Objection. You can answer.
A. I'm not -- you know, I'm a tire expert. What I do is tires.
Q. Do you consider yourself an expert in bubble formation?
A. No, I'm knowledgeable about that.
Q. Do you consider yourself an expert in applied physics?
A. I do.
Q. Do you consider yourself an expert in fluid dynamics?
A. I do.
Q. How about fluid mechanics?
A. I do.
Q. Do you consider yourself an expert in the sounds that bubbles make when they pop?

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A. Not necessarily, although my Ph.D. dissertation was in vibrations and dynamics and acoustics.
Q. Does that involve sounds made by bubbles popping?
A. It involved sounds made by everything.
Q. Including bubbles popping?
A. Including bubbles popping.
Q. And do different bubbles makes different sounds?
A. Certainly the frequency at which bubbles pop make different sounds.
Q. What was the frequency that these bubbles popped at?
A. I didn't measure it.
Q. Now, you used the term overload in your report. You said there were signs of overload. Was that simply a substitute for the use of the term over-deflection, or did you mean overload as opposed to underinflation?
MR. POLLAK: Objection. You can answer.

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A. Again, my opinion is that the tire was overloaded rather than underinflated, simply because the history of the tire, the actual pressure measurements that were made over the life of the tire, suggested that it was routinely overinflated rather than underinflated.
Q. When you say routinely overinflated, can you show me the evidence indicating that it was routinely overinflated?
A. Sure. If you plot all the -- if you plot all the pressure measurements ever made for this tire over its entire lifetime, you get a plot that looks like this where the horizontal line here, the dark horizontal line is 120 psi. So there is far more time where the tire is overinflated than it is -- you know, there is a couple of occurrences of it being less than 120 psi, but for the most of the tire's life, it is running above 120 psi.
MR. POLLAK: Could you just identify which document you are talking about because the reporter --
A. That's the first page in tab 8 of

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the binder, the second volume of my deposition binder.

MR. KAPLAN: Why don't we mark that as Daws 3, please.

(Daws Exhibit 3, plot of tire pressure measurements of subject tire taken from tab 8, Volume II Daws Engineering deposition binder marked for identification, as of this date.)

Q. Now, where did the data come from that was used to create Daws 3?

A. The data came from the tire records, tire inspection card, tire records and so on.

Q. Did the air pressures that were recorded on those documents indicate whether the air pressure was taken cold or hot?

A. No, it did not.

Q. If a tire is inflated to 120 psi and then operated with proper load, how high can the air pressure become as a result of the operation of the vehicle?

A. It can certainly go over 130 which

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is why -- some of these are probably hot measurements.

Q. So can you tell which one of those measurements are hot as opposed to cold?

A. No, sir.

Q. If all of those measurements were recorded as a result of a hot measurement, would that still indicate to you that there was chronic overinflation of those tires?

A. Oh, I didn't say --

MR. POLLAK: Objection. Objection, you can answer.

MS. BOYLE: Objection.

A. I didn't say the tire was chronically overinflated. I just said that the pressures that were measured were over 120, by and large, over the course of the life of the tire, rather than under 120.

Q. But that would not be an unusual finding if those measurements were taken when the tire was hot. Correct?

A. That's correct.

Q. Do you have any other evidence that you can point to which details or which

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supports your theory that the tire was overloaded as opposed to underinflated?

A. Well, again I think this data supports that the tire was properly inflated through its lifetime.

MR. POLLAK: Referring to Daws Exhibit 3.

A. Daws Exhibit 3.

Q. Properly inflated?

A. Yeah. Some of these probably were taken warm which would suggest that the tire was run at about 120 psi throughout its life, and, you know, given the fact that it has got edge cracks and polishing in it, the alternative then is overloading.

Q. Is there any proof that the Greyhound buses were actually being overloaded?

MR. POLLAK: Objection to the form. You can answer.

A. There is no weight data for the buses, no. And we do have proof that the tire was well maintained in terms of air pressure, so.

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Q. But, again, the signs of over-deflection are the same for underinflation and overload, correct?

MR. POLLAK: Objection. You can answer.

A. The end result on the tire is very similar, yes.

Q. Now, the NTSB received data from Greyhound which is referred to in its report indicating that the average load of Greyhound buses in that time period was 35 passengers per bus. Do you recall seeing that information?

A. I believe so, yeah.

Q. And 35 passengers would be significantly lower than the 55 passenger capacity?

A. Provided this bus always saw the average passenger count, sure. I haven't seen any passenger count for this bus.

Q. Well, did Greyhound ever offer you the historical passenger count for this particular bus for the six-month period before the subject accident?

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MR. POLLAK: Objection. You can answer.

A. No, sir.

Q. Did you ever ask them for that?

A. I asked them if there was any weight data.

Q. Did you ever ask them to see if there was a passenger count for the trips that this bus was on during the six months before the subject accident?

A. No, sir.

Q. Would that have been useful to determine whether or not the bus had been overloaded on any previous occasions?

A. Without knowing what the passengers weighed, probably not.

Q. How about if there was an indication that the bus was run consistently with 55 passengers, would that tend to help support your theory of overload?

MR. POLLAK: Objection. You can answer.

A. Again, I think it makes it more probable.

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Q. And, likewise, if the bus is only being run with 35 or less passengers, that would make your theory of overload less probable. Is that correct?

MR. POLLAK: Objection.

A. Well, it certainly reduces the probability, yeah.

Q. And is that possibly the reason why Greyhound never offered you the information about its passenger data for this particular bus?

MR. POLLAK: Objection to the form of the question. You can answer.

A. Again, the number of passengers is not the same thing as the number of passengers and the weight of each passenger and the seating location of each passenger.

Q. Right, but we just established it would make a difference to your theory, whether or not the bus is regularly loaded with 55 passengers as opposed to 25 passengers, isn't that correct?

MR. POLLAK: Objection. You can answer.

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A. No, that's not correct.

Q. Well, would anybody else other than Greyhound have that data?

A. I don't think Greyhound has that data, but they certainly don't have passenger weight.

Q. Do you know if the Greyhound bus in question was carrying freight during the six months before the subject accident?

A. No, I don't.

Q. Were you aware that Greyhound buses did carry freight in addition to passengers and passenger luggage?

MR. POLLAK: Objection. You can answer.

A. Yes, sir. That had to do with fitting of the 16,000 pound front axles to these buses.

Q. Would that have been important to your forensic analysis to determine whether or not Greyhound was overloading its buses with freight, in addition to passenger and luggage weight?

MR. POLLAK: Objection. You can

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answer.

A. Certainly any data I could have gotten, would have been useful.

Q. Did you ever ask Greyhound for that data?

A. No.

Q. Did Greyhound ever offer you that data?

A. No, sir.

Q. Can we assume by the fact that Greyhound didn't offer you that data, that it would not have been helpful to your calculations in terms of trying to put the blame on somebody else?

MR. POLLAK: Objection to the form. You can answer.

A. Again, I don't know how to even answer that question. You know, it is very unlikely that the weight of any cargo was tracked or the weight of any passengers.

Q. How would a common carrier like Greyhound get paid for the freight that it carried?

A. I have no idea.

Q. Do you think it might be done by how much freight in terms of how much it weighed?

A. Might do it by volume.

Q. Well, weight would have to get involved with the fuel calculations and everything else. In other words, the more freight you have, might cause more expense to Greyhound to operate their buses. Isn't that correct?

MR. POLLAK: Objection to form. You can answer.

A. Again, I have no idea. No idea how they got paid for freight.

Q. Now, if a tire, if the subject tire had had a leak of a longer duration than one day, the tire would have sustained forensic evidence of underinflation, wouldn't it have?

A. Not for -- again, it would take thousands of miles, maybe thousands and thousands of miles.

Q. Well, you don't know how many miles the bus was run from the 18th of August

until the 28th of August, do you?

A. It looks like about a thousand miles. I'm sorry, it looks -- 18th of August. It looks like about 5,000 miles, the 18th of August to the 28th of August at the accident scene.

Q. And based on all your testimony that certainly would be enough mileage for the polishing to have materialized. Isn't that true?

A. I don't, I don't think that is enough mileage to have created the polishing that we've seen in there. I mean, it could certainly be started in that amount of time.

Q. How about the other --

A. Again, you have to, you have to, if you are going to go with a low leak rate theory, you figure the first number of -- the thing has to get punctured and then it has to leak down to a point where the tire starts to crack and then the crack has to progress and then it can start to polish. So, you know.

Q. Well, what support is there for the overload theory?

MR. POLLAK: Objection to the form. You can answer.

A. Well, you have, again, you have this cracking and polishing, you know, which didn't come from underinflation and, you know, again, it takes a long period of time to develop it. So, you know, we know that early, from Exhibit 3, you know, in this time period in July and so on, the tire's properly inflated. So there is no way for it to be underinflated in that time period and get, you know, and get the cracking to begin to develop.

Q. Well, we know there is a 5,000 mile operational period over the course of ten days where the air pressure was not checked on this tire, correct?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That's correct.

Q. So that's separate and apart from the prior inflation history that you are talking about, correct?

A. That's correct.

Q. Now, one way to have determined conclusively whether or not it was a slow air leak in this tire, is if air pressure checks had been done in the time period between the 18th and the 28th, isn't that correct?

A. Certainly had an air pressure check been done somewhere in the middle there, we would have better understanding of what actually happened, yeah.

Q. So if Mr. Clark had done an air pressure check on August 22nd that would have given us a better understanding, isn't that correct?

A. Well, it would have given us another data point.

Q. And are you aware that this Greyhound bus was at several Greyhound service lane service areas during the period from August 23rd through August 27th, 2006?

A. Yes, sir.

Q. And are you aware that the Greyhound personnel who man those stations and have been deposed in this case, have claimed that they did not use air pressure gauges to

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check the air pressure of the tires on Greyhound buses?

MR. POLLAK: Objection to the form of the question.

A. I don't recall reviewing any of their -- any service lane personnel testimony.

Q. Do you think it's good practice or bad practice for a Greyhound person to have a bus come through a service lane service area in between August 22nd and August 28th, 2006 and not check the air pressure?

MS. BOYLE: Note my objection.

MR. POLLAK: Objection. You can answer.

A. I don't have any opinions on Greyhound's operation, operational procedures. And I just wasn't asked to look at it. I don't have any opinions.

Q. How about if a Greyhound person who manned the service lane in between August 22nd and August 28th, 2006 failed to record what, if any, air pressures that person may have taken?

MR. POLLAK: Objection to the

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form.

MS. BOYLE: Note my objection.

A. Again, I don't have any opinions on Greyhound's procedures.

Q. Would the puncture alone that was involved in this case have led to the failure of this tire without any evidence of over, or additional over-deflection?

MR. POLLAK: Objection to the form. You can answer it.

A. I think the puncture, there is two possible outcomes. One, the puncture without this internal breakdown going on in the tire, the tire would have gone further down the road.

Now, the question is would it, you know, if the leak rate was as low as Goodyear's experts would suggest, the tire would probably have worn out, been removed because it was under 6/32 of an inch before anything bad happened. If it was, you know, the leak rate I got, the tire would have either failed or, you know, I don't know whether it would have made Montreal or not.

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Q. So can you say to a degree of engineering certainty, whether or not the puncture in and of itself would have led to the cause of this tire's failure?

MR. POLLAK: Objection. You can answer.

A. Again, I think the -- that all depends on, you know, the sequence of events. If this puncture in and of itself would not have caused the tire to fail at the point that it did.

Q. And you can't say whether or not it would have made it to a garage facility before the time it had failed?

A. Well, in all likelihood, had it been, had the tire not had this preexisting crack, it probably would have made it to Montreal. What was that, another two hours up the road? So it probably would have made it to Montreal.

Now, whether, you know, it was noticed as being low at the time it got ready to leave Montreal, I don't know.

Q. How about the over-deflection that

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existed, would that have, in and of itself, caused the tire to fail?

MR. POLLAK: Objection. You can answer.

A. I'm sorry?

Q. The over-deflected condition that you claim preexisted the occurrence of the puncture --

A. Oh, okay.

MR. POLLAK: Objection.

Q. -- would that have, in and of itself, caused the tire to fail?

MR. POLLAK: Objection. You can answer.

A. I think in all likelihood the tire would have been removed from service before it failed based on the level of polishing and so on that was in this tire at the time of its failure.

Q. So it would not have --

A. It would not have -- it certainly would not have failed on this trip.

Q. Now, in your report you made references to body armor --

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A. Yes, sir.
Q. -- as being a design comparison for steel-belted tires, is that correct?
A. No, sir. I related -- used comparison to body armor simply to say that in a field that specializes in penetration, aerial density is the prime -- is the primary variable. So the variable that I looked at in these tires is aerial density.
Q. Do you think that body armor design should be definitive when it comes to theories regarding steel-belt radial design?
A. Obviously not. Steel-belt radial design is an art and science all to its own. However, the aerial density is a prime variable in terms of the penetrability of any type of composite structure.
Q. And as you said it is a trade-off, whether you add more steel or take less steel away, or take steel away, depends on the use that a tire is going to be put to and what the design parameters are supposed to be. Isn't that correct?
MR. POLLAK: Objection. You can

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answer.
A. All tire design is a series of compromises.
Q. Now, it is interesting that you used the analogy with body armor because you have been quoted on numerous occasions as saying that tires are not bulletproof, is that correct?
A. I don't know of a tire that will stop a bullet.
Q. Obviously, body armor is not designed to do the same thing as a tire is designed to do, correct?
A. That's correct.
Q. It is not designed to support thousands of pounds of load, correct?
A. That's correct.
Q. It is not designed to support loads for hundreds of thousands of miles, is that correct?
A. That's correct.
Q. It is not designed to support loads over the course of millions of revolutions of a wheel on a road, isn't that

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correct?
A. That's correct.
Q. Tires are designed to provide a comfortable ride?
A. That's correct.
Q. Body armor is not?
A. I don't think anybody rides on body armor.
Q. Well, different types of impacts and road hazards are confronted by tires than by body armor, correct?
A. Tires must be designed to accommodate a certain amount of road hazard to envelope optimum use on the pavement and so on.
Q. Tires are not designed to stop bullets, are they?
A. No, they are not designed to stop bullets.
Q. Are they designed to be impenetrable to knife attacks?
MR. POLLAK: Objection to the form.
A. Again, on the sidewall, no. On

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the tread surface, you betcha. I don't know of anybody who can stab through a tire on the tread.
Q. With an ice pick?
A. You're welcome to go out in a parking lot and try it.
Q. Have you ever done it?
A. Yeah, I've tried it.
Q. Have you seen any studies regarding stabbing tires with ice picks?
A. No.
Q. Have you seen any articles, studies, reports or journals which suggest beneficial comparisons between body armor design and tire design?
A. Again, to me the --
Q. Wait, you didn't answer. You were shaking your head.
MR. POLLAK: And, Mr. Kaplan, you interrupted his answer.
MR. KAPLAN: No, but he was shaking his head. I think you were shaking your head no and it doesn't get picked up on the transcript.

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MR. POLLAK: What gets picked up is that you clearly, unequivocally, without a doubt stopped him midstream of his answer.

Dr. Daws, please finish your answer at the point where Mr. Kaplan interrupted you and tried to ask another question.

MR. KAPLAN: Why don't you repeat the question. Can you read it back to him please.

(Record read.)

A. Again, the variable of importance is aerial density. The area of industry that has the most interest in penetration resistance is armor.

Q. Maybe you didn't hear my question. Let me read it to you again and maybe you can answer the question that I asked.

Do you know of any articles, studies, reports or journals which suggest beneficial comparisons between body armor design and tire design?

MR. POLLAK: Objection. Asked and

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answered. Objection to the form. You can answer.

A. No.

Q. Are there different design considerations between types of body armor such as bulletproof vests and stab-proof vests?

A. Yes.

Q. And a bulletproof vest is designed like a net or a tether line, would that be a fair characterization?

A. They are designed with a certain amount of give, where as stab armor is not.

Q. In other words, a bulletproof vest wants to absorb inertial energy, but on the other hand, it is not designed to stop a pointed object from penetrating it. Is that correct?

A. That's correct.

Q. Likewise, a stab-proof vest isn't going to give you total protection regarding penetration. Isn't that correct?

A. That's correct. It is the same kind of a deal as in tire design. There are

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compromises associated with the goals and objectives of the design.

Q. In other words, it is assumed that stab-proof vests are going to be fully penetrated, it is just that you want to limit how far the penetrating object goes?

A. And, again, the penetrating object, the amount of penetration depends on the aerial density of the design.

Q. I'm not sure if you answered my question.

MR. KAPLAN: Could you reread the question that I asked the witness.

(Record read.)

A. Well, I think that is a gross simplification when you say it assumes they are going to be penetrated. Obviously, the goal, the design goal is to stop penetration.

Q. Is that what stab-proof vests do: do they stop penetration, or do they limit the amount of penetration?

A. Well, they certainly -- in general, they limit the amount of penetration. Obviously, that depends on the amount of

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energy and the shape of the penetrating object.

Q. Now, we've been discussing the earlier, the maintenance desk reports. One of the calculations you made when determining or when calculating your theories about the frequency of punctures was that the mileage of the G-409 had a steady rate over its life history. In other words from 2001 through 2008 at 140,000 miles? Don't you say that in your report, sir?

MR. POLLAK: Objection. You can answer.

A. As far as I know, that's the design goal of the tire.

Q. Is that what happened in the real world? Was the 140,000 mile bogey achieved from 2001 through 2004?

A. I don't recall.

Q. In fact, didn't the mileage of the G-409 tire increase considerably after the C-3 revision went into effect?

A. If it did, I don't have any data that looks like that.

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Q. I want to show you a couple of Greyhound documents that were produced. Why don't we mark one as Exhibit 4 and another as Exhibit 5. Exhibit 4 is marked JD 0012965 and Exhibit 5 is JD 0012949. Exhibit 4 is entitled 315/80R22.5 G-409 MBA Tire Performance. The other document is entitled 315/80R22.5 G-409 MBA Tire Performance.

(Daws Exhibit 4, document entitled 315/80R22.5 G-409 MBA Tire Performance bearing No. JD 0012965 marked for identification, as of this date.)

(Daws Exhibit 5, document entitled 315/80R22.5 G-409 MBA Tire Performance bearing No. JD 0012949 marked for identification, as of this date.)

MR. POLLAK: Just note my objection to the characterization of these documents as Greyhound documents.

MR. KAPLAN: Well, I said they were produced by Greyhound.

MR. POLLAK: So is there a

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question?

MR. KAPLAN: Yes.

Q. Can you make out what those charts show?

A. This looks like a Goodyear document which Goodyear didn't produce, put out by Mileage Sales and Service. Exhibit 4 is mileage versus -- oh, this is mileage. I guess that would be average mileage, but I don't know, it doesn't say. And then you have I guess August '01, August '02 through May '06. Okay.

Q. And how about the second document?

A. And the second -- I'm sorry, what?

Q. How about the second document?

A. The second document shows G-409 MBA tire performance, and, let's see, it shows mileage on the vertical access and it shows, it looks like monthly mileage. So it shows, yeah, mileage by month, okay.

Q. Do the both charts show in effect the same data, or consistent data?

A. No, sir, they don't.

Q. In which ways are they

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inconsistent?

A. Well, the data on Exhibit 5 basically looks like about a year-and-a-half from January '03 to July '04. Okay. So, this data doesn't even begin to cover C-3.

MR. POLLAK: Referring to which exhibit?

A. Exhibit 5.

Q. Right.

A. It shows that the trend is going up and then it goes down and then it goes up again.

Q. How about the other exhibit?

A. This exhibit --

MR. POLLAK: Referring to Exhibit 4.

A. 4, basically shows, it looks like either a monthly snapshot for August or the average for the year preceding August. It is hard to tell which. And there is a general increase from '01 all the way through '06.

Q. Now, the information period that those two documents overlap, is the data consistent? In other words, they do

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cross-reference at least to some extent the same period of time, do they not?

MR. POLLAK: Objection. You can answer.

A. Yeah, but they are not similar -- let's see. August '03 is about a hundred thousand -- it's really hard to say. I don't know whether this is a year following or a year -- you know, a year following.

MR. POLLAK: You have to refer to document numbers.

A. Okay. I don't know whether Exhibit 4 is a year following or a year preceding as an average, or whether it is -- it clearly isn't the same as this.

MR. POLLAK: Which number?

A. Exhibit 5. It looks like they might be in the same ballpark at least one spot there, but it's hard to say.

Q. When you have here August of 2003 on Exhibit 4, it indicates approximately 104,000 miles. Is that correct?

MR. POLLAK: Just note my objection to -- object to the form.

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A. Yes. No, wait a minute -- August '03?

Q. Right.

A. Yeah, about 104 somewhere around in there.

Q. Now, do you see this bar over here after July '03, it would be August, September, October, November, December, January?

A. Yeah.

Q. Would this bar reflecting August of '03, also indicate the same amount of miles?

MR. POLLAK: Objection to the form of the question.

A. It may. It's hard to say. I mean, the scale is 5,000 miles so -- whether it is 104,000 or not, I don't know. But like I said, they are similar at that point. However, this one peaks and then goes down again.

MR. POLLAK: Referring to which exhibit.

A. Exhibit 5 peaks and then goes down.

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And this one shows --

MR. POLLAK: You have to say which numbers.

A. And Exhibit 5 shows it concentrating up.

MR. POLLAK: The witness was pointing to Exhibit 4 when he just said Exhibit 5.

Q. It is tougher to figure out this than to calculate bubbles in a video, huh?

A. Well, I would need some time to really digest. I mean, you are hitting me cold with this and asking me to determine what's exactly intended by the graph.

Q. Well, let me help you out. This shows, it says tire performance and then it has 145,000 down to 65,000. In August of '03 it indicates less than a 105,000, and in May of '06 it indicates close to 145,000. Isn't that correct?

MR. POLLAK: Objection to form. You can answer.

A. That's what Exhibit 4 shows, or purports to show.

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Q. And it is 315/80R22.5 G-409 MBA tire performance chart from the mileage sale and service group. Do see that?

A. I do.

Q. So do you think it is too much of a stretch to assume that what this is saying is that the mileage of the G-409 tires in August of '03 was slightly under 105,000 and that in May of '06 it was slightly over 145,000 miles?

MR. POLLAK: Objection to the form of the question. You can answer.

A. That may be an interpretation I craft, I don't know.

Q. Do you interpret it any other way?

MR. POLLAK: Objection to the form of the question.

A. Again, I, I don't know where the data is coming from. You know, it says it is a Goodyear confidential document. I've never seen it before, so.

Q. I'm representing to you this was produced to Goodyear by Greyhound. So it is a document that Greyhound had in its possession.

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Did Greyhound ever show you this document?

MR. POLLAK: Objection to the form of the question.

A. Let's see. Well, that would have been in this production set and I said in brief review of those 15 CDs, I didn't see a whole lot different than what I already seen, so I obviously didn't look at it even though it was probably in that set.

Q. If the C-3 G-409 tire was sustaining punctures at a high rate, would that be consistent with it operating for on the average 145,000 miles as opposed to 105,000 miles?

MR. POLLAK: Objection. You can answer.

A. The puncture rate calculation that I did is based on -- is normalized for mileage.

Q. Well, your puncture rate calculation, if I'm correct, assumes a constant of 140,000 miles?

A. No, sir, it doesn't. That has

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absolutely nothing to do with anything.
Q. Could you show me --
A. The bus --
Q. I'm sorry.
A. The bus mileage comes from the actual mileage recorded from Greyhound. That is the number of bus miles per month. Okay? That doesn't have anything to do with the tires.
It just says the only thing I used the mileage for, the tire mileage for is to determine how many months it would take to wear out all the tires on the buses to determine how long it would take from the time a manufacturing change or a design change was made, to the time that the fleet would be equipped with those tires. That's it.
Q. But you used a completely different calculation. You used the total number of bus miles, not even taking into consideration the average number of miles each individual tire was able to last in the fleet. Is that correct?
A. I normalized the number of

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punctures, flats, by the number of miles.
Q. Number of bus miles?
A. Well, steer axle miles. Steer axle tire miles.
Q. Did you factor at all into your calculations, the mileage performance on average for the individual tires themselves?
A. No. Why would you do that?
Q. Well, do you think it is insignificant that the G-409 tire was experiencing close to a 50 percent better mileage record than it did in August of '03?
MR. POLLAK: Objection to the form. You can answer.
A. Well, if you look at the data, I mean, in August '05, let's see, let me see this one here, Exhibit 5, design change was in the middle of '04, so we are starting to see this trend.
MR. POLLAK: Refer to which exhibit, John, please.
A. Exhibit 5. So, again, when I look at the number of flats per steer axle mile, what difference does it make how long the

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steer tires last until you are telling me they fall apart before they wear out.
Q. Well, what I'm asking you is, doesn't it appear clear that the G-409 tire was lasting for considerably more miles after the C-3 revision was made?
MR. POLLAK: Objection.
A. And my answer is so what?
Q. Does "so what" mean yes?
A. My answer is so what. It doesn't have anything to do with puncture resistance.
Q. Do you think that a tire that is on the road for 140,000 miles as opposed to 90,000 miles, has a greater chance of encountering road hazards such as screws and nails and other sharp objects?
MR. POLLAK: Objection to the form. You can answer.
A. That's not the issue here.
Q. That's not the answer to the question?
A. It is not the issue. It is simply not the issue.
What you are telling me is that

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somehow or another tires magically avoid a puncture. You are driving along, somewhere on the road there is a puncture. What does it matter whether the tire has 90,000 miles and is going to wear out at 140, or it has 130,000 miles and is going to wear out at -- well, let's say, what does it matter whether the tire has 90,000 miles and is going to wear out at 105,000 miles, versus 90,000 miles and is going to wear out at 130. It doesn't make any difference.
Q. Are you telling me that you wouldn't expect a tire that you considered to have a defect in terms of its puncturability to have -- strike that.
Are you telling me that a tire with an increased puncture risk is going to last 50 percent longer than a tire without a puncture risk?
A. That's apples and oranges. They have no relation to one another. None. None.
Q. When you say they have no relation, if a tire is more apt to be punctured, is it going to have more

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opportunities to be punctured in 90,000 miles than a tire that, in your opinion, is less or more puncture proof?

MR. POLLAK: Objection. You can answer.

Q. In other words, if I ran the C-3 tire next to the C-2 tire, would you expect the C-3 tire to last the same amount of mileage as the C-2 tire?

A. Well, clearly the data suggest that the C-3 tires wear longer.

Q. And wouldn't the average be taken down if more tires were removed from service because of punctures at lower mileages?

A. It all depends on whether that is wear-out data or whether it is the whole population data.

Q. Does it say anywhere on this that this is wear-out data?

A. No, it doesn't say that it isn't.

Q. So you can't tell one way or the other?

MR. POLLAK: Objection to the form.

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A. That's right.

Q. If the C-3 G-409 tire lasted longer in service than the C-2 G-409 tire, wouldn't that cut against your theory of there being a puncture-resistant problem with the C-3 tire?

MR. POLLAK: Objection. You can answer.

A. Absolutely not. It has absolutely nothing to do with it.

Q. Again, if I put a C-3 tire on the left front of a bus and a C-2 tire on the right front of the bus and ran them, would you expect the C-2 tire to last longer or the C-3 tire to last longer?

MR. POLLAK: Objection. You can answer.

A. You are trying to compare wear-out, wear of tread, to puncture resistance.

Q. Who says I'm doing that?

A. You said last longer. That's what you are saying.

Q. Well, would it stay on the road

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without failing, longer?

MR. POLLAK: Objection to form.

A. That's not what that data says.

Q. How do you know?

A. Well, let --

Q. Didn't you just say you can't tell if it is wear-out data or the life of the tire?

A. Sure. But my analysis is, the number of flats per million steer axle tires. I don't care how many tires you grind through or don't grind through. If I travel the same number of steer tire miles and I have four times as many flats, then that doesn't have anything to do with how long the tires last.

It's a question -- it's a question of, you know, how many flats per steer tire, per million steer tire miles.

Q. Okay, flats. We're not talking about punctures.

A. Well, punctures.

Q. Well, where does it say punctures, again, going back to the maintenance desk reports, where does it use the term puncture?

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MR. POLLAK: Objection. You can answer.

A. Again, the most likely category for a flat is a puncture.

Q. When did you tell Greyhound that you thought that the G-409 tire was defective?

A. I have no idea.

Q. Are you aware that Greyhound continued to use the G-409 tire even in the steer positions, well into 2010?

MR. POLLAK: Objection. You may answer.

A. In the steer axle positions?

Q. Yes.

A. My understanding is it was removed from service in -- or they started removing it from service on steer axles in 2009 sometime.

Q. Well, the reason why G-409 tires started to be removed was because the contract with Goodyear for leasing those tires was winding down, isn't that correct?

MR. POLLAK: Objection, but you can answer.

A. Again, I don't have any idea about

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that.
Q. Are you aware that Greyhound has admitted that there were G-409 tires on the steer axles of its buses well into 2010?
MR. POLLAK: Objection. You can answer.
A. No, I'm not aware of that.
Q. Is that consistent with Greyhound honestly believing that the G-409 tire was a defective and dangerous tire?
MR. POLLAK: Objection to form. You can answer.
A. Again, I'm just not aware of it.
Q. Well, did you ever report the dangers that you feel are inherent in the G-409 tires to the National Transportation Safety Board?
MR. POLLAK: Objection.
A. No, I did not.
Q. Did you report it to NHTSA?
A. No, I did not.
Q. Did you report it to any agency within the Department of Transportation?
A. No, I did not.

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Q. Were you aware that the design change, the C-3 design change, wasn't only in the G-409 tire, but it was in numerous tires in Goodyear's radial medium truck tire fleet?
A. Yes, I was.
Q. Are you aware of any data that suggests that on a global basis Goodyear was having problems with the puncturability of its radial medium truck tires --
MR. POLLAK: Just note my objection.
Q. -- using the C-3 design revision?
MR. POLLAK: Just note my objection to the form of the question.
A. Greyhound has -- Goodyear has produced no data that would suggest that, you know --
Q. Are you aware of any data --
MR. POLLAK: Mr. Kaplan, you again interrupted.
MR. KAPLAN: He was finishing his --
MR. POLLAK: So let him finish.
MR. KAPLAN: I believe he had

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finished. Did you finish your answer?
A. You know, there is, essentially there is no data.
Q. Have you ever read in any industry journal that Goodyear was experiencing puncture problems with its radial medium truck tires?
A. No, sir.
Q. Did you ever read any peer-reviewed articles that mentioned the fact that Goodyear was experiencing an abnormally high rate of punctures in its radial medium truck tires after the C-3 type revisions were made in their radial medium truck tires?
A. Again, I wouldn't expect to find an article like that, unless it was produced by Goodyear. And why would Goodyear produce such an article because nobody else in the world knows about C-3.
Q. Well, when the Ford Firestone recall came about, wasn't much of that fueled by what came about in the media and what people are reporting to the media?
A. That's correct.

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Q. Has anything like that happened with Goodyear radial medium truck tires?
A. Well, I think, you know, this whole business of steer axle tire failure certainly has the NTSB's interest at this point in time.
Q. Has the NTSB investigated G-409 tires because of steer axle failures?
A. Well, they did this investigation.
Q. Well, this investigation was an accident investigation?
A. It was an accident investigation, yes.
Q. And did the NTSB find any defect with the G-409 tire?
A. No, sir.
Q. Did the NTSB conclude that the G-409 tire in any way had a problem in terms of its puncturability?
MR. POLLAK: Objection.
A. No, sir, they did not.
Q. Now, in fact, going back to the Ford Firestone analogy, you used to testify at numerous occasions for Ford, did you not?

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A. I did.
Q. And you in almost all of those instances, never have found fault with the Firestone Wilderness or ATX tires, did you?
A. In the vast majority of cases, that's correct.
Q. You didn't find ever that there was a design defect in those tires, did you?
A. I never had design information for the tires.
Q. Well, isn't it true that you said that one of the reasons why you couldn't conclude that there was a design defect in those tires, because you would expect a huge accident rate coming back in the field data?
MR. POLLAK: Objection. You can answer.
A. I don't think I said huge. I may have used the word huge, but you got to remember you had 20 million tires produced. So if you had a 1 percent failure rate, you would have tens of thousands of tires failing, and they had a, you know, 15 percent or 1-1/2 rate out of Decatur, you know, you would

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expect, you know, considerably more than that.
Again, NHTSA never figured out exactly what was driving the whole failure issue. There were four issues or four things that they figured that contributed perhaps, you know, but the wedge gauge was the one that they nailed.
And essentially the fact is that, you know, they recalled the entire population of radial ATX, ATX 2 and Wilderness AT on the basis of the wedge gauge and only a handful of those tires, relatively speaking, failed. All of them were considered defective because of the design change Firestone made.
Q. Were any G-409 tires recalled or have they ever been recalled as far as you know?
A. No, sir.
Q. Do manufacturers warrant against nails or screws puncturing their tires?
A. No, sir.
Q. Have you ever opined that any other tire had a defect in its steel-belt package because the amount of steel was not

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sufficient enough and that the tire's puncture-resistance was reduced as result?
MR. POLLAK: Objection to the form.
A. No, sir.
THE WITNESS: Sorry.
(Discussion off the written record.)
Q. Are you familiar with the radial medium truck tires that are manufactured by Firestone or Bridgestone or Continental or Yokohama or Kumho Tire?
A. Other than having done forensic examination of some Yokohama tires and some Firestone tires, no.
Q. Can you say whether or not any of those companies radial medium truck tires would have prevented or caused the puncture in the instant case to have not occurred?
MR. POLLAK: Objection to the form. You can answer.
A. No, I can't.
Q. What is the maintenance response desk at Greyhound?

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A. I believe it is where drivers call in for service.
Q. They call in for service or they call in to report that their bus has been disabled?
A. Well, that's what I mean by service. The bus had been disabled, because if the bus needs service when it reaches a depot, that doesn't get a maintenance response desk call.
Q. Do you know whether or not all the incidents reported involve buses that have breakdowns or can't operate?
A. No, I don't.
Q. And do you know what type of information is provided by the drivers to the maintenance response desk?
A. No, sir.
Q. Do you know who provides it: does the driver provide it or someone else?
A. No, sir, I don't.
Q. Is there a desk script which the responder or the operator who receives the call, is supposed to follow for purpose of

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obtaining information relating to the reported incident?

MR. POLLAK: Objection. You can answer.

A. No, I don't know that.

Q. So if there was a script, obviously you have never seen a copy of it?

A. That's correct.

Q. Does the responder ask what caused the incident?

MR. POLLAK: Objection to the form. You can answer.

A. I don't know.

Q. Is the person who is reporting the incident, required to tell exactly what the cause of the incident was?

MR. POLLAK: Objection. You can answer.

A. I have no idea.

Q. In fact, would it be fair to say that if a driver reported that he had a flat tire, he might not have any idea as to whether or not a nail or a screw or road hazard or some completely different event caused the

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tire to become flat. Isn't that correct?

MR. POLLAK: Objection. You can answer.

A. Well, that's not completely true. I think that's a colorful exaggeration at best.

Let's just look at -- if you look at causes, causations on front tire failures, the typical, or the ones that are reported are flats, tires blown, leaks, tires worn, it's bad, it's cut which would cover your road hazard, its cupped, it's split, again a road hazard or something similar, it has a bulge in it, again, the effect of a road hazard, or a tread throw, that is, a delamination. So there is as least at the level of the data in those files, there are, tires are, you know, tire failures are broken up into many different categories.

Q. How about punctures, do we see punctures mentioned?

MR. POLLAK: Objection. You can answer.

A. Again, flats are clearly, the most

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likely cause of a flat is a puncture. And leaks, again, the most likely cause of a leak is a puncture.

Q. Now, I believe you said you haven't read the deposition testimony of Mr. Richard James of Greyhound?

A. That's correct.

Q. And I explained to you that he was the national manager, he has been in Greyhound for 19 years. Are you aware that he was asked whether or not he had seen printouts of reports from the maintenance response desk and that he said that he had?

A. No, sir.

Q. Now, are you aware that he was asked:

"Now, if you were to look at a maintenance response desk report that indicated a flat tire, would that tell you how that tire was caused to be flat?"

And his answer was: "No, sir, it would not."

MR. POLLAK: Is there a question?

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Q. Do you have any reason to disagree with Mr. James' testimony?

MR. POLLAK: Objection to the form.

A. Well, again, the most likely candidate for a flat tire is a puncture.

Q. Do you think you would be more familiar with how Greyhound's maintenance response desk works, or Mr. James?

MR. POLLAK: Objection. You can answer.

A. Again, I don't know how the maintenance response desk works.

Q. Do you think you would be more familiar with how drivers report incidents into the maintenance response desk, or Mr. James?

MR. POLLAK: Objection. You can answer.

A. I don't have any idea how the maintenance response desk works.

Q. Do you think you would be more familiar with how to interpret this information that comes in through the

maintenance response desk or Mr. James?
A. Well, as a tire expert, I'm certainly more capable of evaluating what categories are being put down than Mr. James is perhaps.
Q. Well, Mr. James was asked also:
"If a report from the maintenance response desk indicated that a tire was flat, would that indicate to you that a tire had been punctured?"
And his answer was: "No, sir."
MR. POLLAK: Is that a statement or question, Mr. Kaplan?
Q. Do you have any reason to doubt Mr. James' veracity when he stated "no, sir"?
MR. POLLAK: Objection to the form. You can answer.
A. That may be what he believes.
Q. Well, who would have more familiarity with the reports that go into the maintenance report desk: Mr. James who has worked at Greyhound for 19 years, or you?
A. Well --
MR. POLLAK: Objection. You can

answer.
A. I have far more tire experience than Mr. James would think about.
Q. Well, Mr. James said that a broken torsion bar can cause a tire to become flat. Is that listed in the category that you gave?
A. That probably comes into the heading of blown.
Q. It is not exactly the same though, is it?
MR. POLLAK: Objection to the form. You can answer.
A. No, it is not.
Q. Mr. James indicated that a broken shock on a bus can cause a tire to become flat.
MR. POLLAK: Is there question?
Q. Do you agree or disagree with that?
A. I think there is some cases, you can always find some case where that, some mechanical failure on the bus can give rise to the tire -- can give rise to road hazard damage on the tire.

Q. Mr. James said that misalignment can cause a tire to become flat.
A. No, sir.
MR. POLLAK: Is there a question?
Q. Do you agree or disagree with that.
MR. POLLAK: John, let him first ask the question before you answer. I'm not sure what you are asking. Just note my objection that there was no question.
Q. Do you agree or disagree with Mr. James?
A. I absolutely disagree that misalignment can cause a tire to become flat.
Q. Do you think Mr. James might have more experience than you regarding how Greyhound buses and their tires fail based on his 19 years of experience working in a maintenance capacity?
MR. POLLAK: Objection. You can answer.
A. I have never seen a tire go flat due to misalignment, unless it literally got so bad that it wore completely through all the

steel belts.
Q. Do you think you know more about tire failures on Greyhound buses than Mr. James does?
MR. POLLAK: Objection. You can answer.
A. I know more about tire failures than Mr. James does.
Q. Do you agree with Mr. James that sidewall failures can cause a bus to go flat?
A. A sidewall blowout certainly results in a flat tire, yes.
Q. Now, I notice you mentioned a bunch of categories. I didn't hear you mention the word sidewall or tread. Is that correct?
A. That's correct.
Q. That would be a different scenario, right, if there was damage to the sidewall versus damage to the tread?
A. I don't believe that the description in the reports covers that.
Q. So a flat tire can include damage to a sidewall of a tire, as well as a tread of

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a tire then?
A. Typically, if you have sidewall damage, you see it.
Q. Typically? Do you know what Greyhound drivers typically report to the maintenance response desk?
A. Again, I'm not sure exactly what gets reported to the maintenance response desk.
Q. Well, let me just make this clear. I think I already asked you whether or not you had ever spoken to any Greyhound bus driver and you indicated that you have never spoken to any Greyhound bus driver, is that correct?
MR. POLLAK: Just note my objection. You can answer.
A. That's correct.
Q. Did you ever speak to anybody at Greyhound regarding how the reports that go to the maintenance response desk are interpreted by Greyhound?
A. No, sir.
Q. Did you ever speak to anybody at Greyhound regarding the information that goes

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into the maintenance response desk, other than your just looking at a report that was printed out of a computer and given to you?
A. I missed the first part of the question.
Q. Well, did you ever speak to anybody at Greyhound regarding what goes into these maintenance response desk reports?
A. No, sir.
Q. Did you have any conversation whatsoever regarding any topic having to do with maintenance response desk reports with any employee of Greyhound?
MR. POLLAK: Objection.
A. No, sir.
MR. POLLAK: I just need to take a men's room break when you have some convenient --
MR. KAPLAN: Pretty soon. Pretty soon.
Q. Do you agree that sidewall failure such as cuts and gashes, can cause a tire to go flat?
A. Sure.

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Q. Do you agree that cracked wheels as Mr. James indicates, can cause a tire to become flat?
A. Yes, sir.
Q. And that a damaged rim also can cause a tire to become flat?
A. Generally if you damage the rim, you've also damaged the tire. But, yeah it will be flat.
Q. How about a defective valve, can that cause a tire to become flat?
A. Yes, sir.
Q. And are you aware that Mr. James said that, and I'll quote:
In any instance on maintenance response desk report of tire failures where it indicates either blown out or flat, any one of these conditions that we've talked about could be the cause of that, correct?
And his answer was: Yes, sir.
A. As I said --
MR. POLLAK: John, there is no question.

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Q. Do you have any reason to doubt Mr. James' testimony in that regard?
MR. POLLAK: Objection. You can answer.
A. Again, like I said, I never looked at Mr. James' testimony. I never talked to Mr. James.
Q. I think it might be helpful for you to do so at some point.
MR. KAPLAN: Now is a good time to take a quick break. I don't have a lot more to go.
MR. POLLAK: Thank you.
THE VIDEOGRAPHER: We are now going off the record at approximately 5:08 p.m. This is the end of tape No. 5.
(Recess taken.)
THE VIDEOGRAPHER: This is the beginning of tape No. 6 in the Daws deposition. We're going back on record at approximately 5:19 p.m.
BY MR. KAPLAN
Q. Could you please take out

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attachment No. 9 to your July 28th report?
A. Can you tell me which attachment that is.
Q. I believe that's the one that has the breakdown of the information regarding the maintenance response desk reports.
A. Okay. Okay.
Q. Now, on I believe it is the third page there appears to be a --
MR. POLLAK: One second.
Q. Tell me when you are ready.
A. I don't have the attachments in the sense that you -- which document are you looking at?
Q. I just have it --
A. Oh, okay, all right.
Q. There is an indication, there is a chart which shows a breakdown of the number of flats that occurred on a monthly basis. Do you recall preparing something like that?
A. Yes, sir.
Q. And looking at Exhibit, or attachment 9 there is an indication that in August of 2005 there were 22 flats?

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A. Okay.
Q. Now, this would have been information that you would have utilized in constructing your theory about puncture frequency. Is that correct?
A. That's correct.
Q. And what I would like you to do is as follows.
I have here something I want to mark as an exhibit which has from the 1852 pages, all of the instances of, or all the reports coming from August of 2005. And what I would like you to do is to go through them, tell me which ones you utilized for purposes of your report and why you concluded that those reports were flat tires that were caused by a puncture, as opposed to any other type of failure mode. Okay?
A. Okay. Let's go off the record.
MR. POLLAK: One second. Which month are you talking about in the attachment 9?
MR. KAPLAN: Well, I have it over here, August of 2005. So first we have

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to stay on the record so we can mark this as an exhibit.
(Daws Exhibit 6, maintenance response desk page Nos. 51, 54, 93, 106, 221, 250, 348, 378, 386, 450, 471, 506, 555, 578, 590, 597, 668, 672, 713, 749, 810, 899, 936, 977, 1026, 1034, 1066, 1206, 1214, 1343, 1355, 1393, 1519, 1528, 1564, 1579, 1615, 1678, 1685, 1694, 1736, 1745, 1746, 1755, 1767 and 1803 marked for identification, as of this date.)
THE WITNESS: And these pages are numbered sequentially?
MR. KAPLAN: Well, yes. It's --
MR. POLLAK: No.
MR. KAPLAN: They are. It is, the first one is 51 out of 1852, the second one is 54 out of 1852, we couldn't do a breakdown by month.
MR. POLLAK: Just for the record, Daws Exhibit 6 consists of multiple pages from the maintenance response desk

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and they are numbered as follows in this order, 51, 54, 93, 106, 221, 250, 348, 378, 386, 450, 471, 506, 555, 578, 590, 597, 668, 672, 713, 749, 810, 899, 936, 977, 1026, 1034, 1066, 1206, 1214, 1343, 1355, 1393, 1519, 1528, 1564, 1579, 1615, 1678, 1685, 1694, 1736, 1745, 1746, 1755, 1767 and 1803. And I would also like to note for the record that this document was produced by Greyhound during the course of discovery in this case and is sequential based upon bus number. That's the way it was produced.
MR. KAPLAN: Right, that's the way it was produced to us.
MR. POLLAK: Correct.
Q. And what I've done is, I've checked off on each page an entry that indicates it's from August of 2005, and there are approximately 50, 51 entries. And I would like you to go through these and tell me page by page which ones you used for your own statistics and what the basis for your concluding that the incident reflected in each

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one of these entries, had anything to do with a punctured tire through the tread area?
MR. POLLAK: Are you referring to the entries that have a date in August 2005? Is that correct?
MR. KAPLAN: Correct. On that exhibit I have a check mark in pen next to each one of those entries to make it a little bit easier for you to find.
MR. POLLAK: Just note my objection to the form of the question.
Q. Why don't we start with page 51. And if you note there are two entries towards the bottom of the page.
MR. POLLAK: Just, also another objection besides the form of the question. It is a foundation question. I'll say the word objection, and the witness can go ahead.
MR. KAPLAN: Foundation? What's the foundation objection? This is a document you produced to us that this witness claims to rely upon for the basis of his theories in this case.

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MR. POLLAK: I'm not going to -- I just note my objections and you can ask your questions.
MR. KAPLAN: Okay.
Q. Looking at the first --
A. So let me just get this straight. You are wanting to look at each of these entries and say why I would consider it a flat or not a flat?
Q. Right. Or why you used it for purposes of your own compilation of information and why you didn't use others?
A. Okay. And are you sure that every page involved in August is on this -- in this bundle?
Q. Well, I will tell you what. After this deposition is over you are free to go and look through the 1852 pages and find out any that I failed to collect, okay?
MR. POLLAK: Just note my objection for the reason stated.
A. I guess what I'm saying is, I would like to go off and look at this stuff and then come back and continue. So at least

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I have some idea about what it is I'm looking at page by page.
MR. POLLAK: I think it is fair for you to look at it before you testify about it, sure.
Q. Just so I'm clear, this is the form of the document that was provided to you by Greyhound, correct?
A. No, I got the documents electronically.
Q. But when you print it out, does it look like this?
A. If you look at them on the screen, they look exactly like this.
Q. So these, since you already indicated to me that you reviewed every single of the 1852 pages, you would have already reviewed each one of the pages that are part of this exhibit. Correct?
A. Certainly.
MR. KAPLAN: Okay. Why don't we go off the record.
MR. POLLAK: We can go off the record.

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THE VIDEOGRAPHER: Off the record at approximately 5:27 p.m.
(Recess taken.)
THE VIDEOGRAPHER: We're now going back on record approximately 5:51 p.m.
BY MR. KAPLAN
Q. Looking at this exhibit -- what exhibit number is it again?
MR. POLLAK: 6.
Q. 6. Looking at Exhibit 6, on page 51 were there any incidents from August of 2005 that were used in your calculations?
A. No, sir.
Q. How about page 54?
A. No, sir.
Q. How about page 93?
A. No, sir.
Q. How about page 106?
A. No, sir.
Q. How about page 221?
A. Yes, sir.
Q. And can you tell me which one of these incidents you used in your calculation?
A. Bus No. 2223 on August 12, 2005

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front left, front tire flat.
Q. Does it say anything else about the tire, other than that it is flat?
A. Nope.
Q. Does it say what caused the tire to become flat?
A. No, sir.
Q. Is the word puncture mentioned?
A. No, sir.
Q. Does it indicate what model of bus this tire was mounted on?
A. No, sir.
Q. Does it indicate whether or not this was a C-3 or C-2 G-409 tire?
A. No, sir.
Q. Does it mention whether it is even a G-409 tire or some other tire?
A. No, sir.
Q. Do you see the word tread mentioned any place on this?
A. No, sir.
Q. Do you know whether or not this bus was operating or parked when the person who noticed that the tire was flat, first

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noticed it?
MR. POLLAK: Objection.
A. No, sir.
Q. Does it indicate who called in this report?
A. No, sir.
Q. And what was the basis for your concluding that this represented a puncture through the tread area of the tire?
A. Basically the spare was installed and the bus continued, so there was nothing mechanically wrong with the bus. And again the most likely cause of a flat is a puncture.
Q. So you are assuming that it was a puncture through the tread as opposed to any other disabling incident that occurred to the tire, is that correct?
MR. POLLAK: Note my objection to the form.
A. As we discussed before, if you find things that are other indications, like cupping or cut or something like that, bulge, blown, there is all kinds of other descriptions given. Flat is, in my opinion

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generic for the tire went flat, and puncture is the most likely cause for that.
Q. Well, flat is generic, isn't that correct?
A. I believe so, yeah.
Q. And as the Greyhound witness testified, flat can mean any one of a number of failures that led to that tire being flat, isn't that correct?
MR. POLLAK: Note my objection to this entire line of questioning as having been asked and answered previously. So it is continuous objection on that ground. Objection.
MR. KAPLAN: Can you read the question back, please.
(Record read.)
MR. POLLAK: Objection to form.
A. Well, certainly we can exclude anything that was mechanically wrong, like a shock or air bag or anything like that. The bus, the service provider put the spare on and the bus went on about its business.
Q. So a few things can be excluded

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but plenty can't be excluded, isn't that right?
MR. POLLAK: Objection.
A. Again, the most likely cause of a flat is a puncture.
Q. And that's your assumption, again?
A. Yes.
MR. POLLAK: Objection to the word assumption.
Q. Okay, now, that was page 221, how about page 250: is there anything that you utilized on that page?
A. No, sir.
Q. How about page 348?
A. Yes, sir.
Q. And which one did you utilize?
A. Bus 2746, August 20, 2005.
Q. Does that entry indicate what kind of bus model this tire was mounted on?
A. No, sir.
Q. Does it indicate whether or not it was a C-3 or C-2 G-409 tire?
A. No, sir.
Q. Does it indicate whether it is

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even a G-409, as opposed to some other type of tire?
A. No, sir.
Q. Does it indicate whether or not this tire had any failure in its tread or its sidewall?
A. No, sir.
Q. Does it indicate the word puncture?
A. No, sir.
Q. Again, we're operating under the same assumption that you utilized in the previous incident, is that correct?
MR. POLLAK: Just note my objection to the form and continuous objection to the use of the word assumption. I object to every question that has that word in it.
A. My opinion is that the leak, you know, when it says flat, he had a puncture. That's the basis on which I built my analysis.
Q. What facts relevant to Greyhound buses are you basing your opinion on?
A. Facts?

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Q. Yeah, facts.
A. As a tire expert, the number of flat tires that I've seen that did not involve a puncture are fairly small.
Q. Do you have any experience in analyzing the different types of tire failures experienced by Greyhound buses?
A. Well, I've looked at a lot of G-409 tires off of Greyhound buses.
Q. That were given to you by Greyhound to look at, right?
A. That's correct.
Q. Have you done any systematic review of the types of failure modes that Greyhound buses experience?
A. Buses in general? No, sir.
Q. All right. That was page 348. How about page 378?
A. Yes, sir.
Q. Okay. That would be bus 2834 on August 28th?
A. Yes, sir.
Q. And that is a case that was on an MC 12 bus, correct?

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A. Correct.
Q. That is not the model bus that was involved in the Elizabethtown accident, was it?
A. I don't care.
Q. I just asked you yes or no.
A. No, it's not.
Q. I'm sure you don't care, but I just want to know yes or no.
MR. POLLAK: Objection to whatever it is, I don't know if it was a statement or a comment or whatever it was.
Q. Does this indicate anywhere whether or not this was a C-2 or C-3, G-409 tire?
A. No, sir.
Q. Does it indicate anywhere whether this was even a G-409 tire at all?
A. No, sir.
Q. Does it indicate whether or not this involved the tread or the sidewall of the tire?
A. No, sir.

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Q. Does it state in any way what the cause of the flat tire was?
A. No, sir.
Q. Does the word puncture appear anywhere?
A. No, sir.
Q. And was this bus operating or was it parked when whoever it was who noticed the flat tire, noticed it was flat?
A. I don't know.
Q. Do you know how it was noticed?
A. No, sir.
Q. Do you know who reported it in?
A. No, sir.
Q. Page 3 -- that was page 378. How about page 386?
A. Yes, sir.
Q. And would that be the 2863 bus on August 27?
A. Yes, sir.
Q. And that involved an MC 12 bus, not a 102DL3, correct?
A. That's correct.
Q. Does this entry indicate anywhere

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whether or not this was a C-3 or a C-2 G-409 tire?
A. Again, I don't care. But no, it doesn't.
Q. You don't care whether it is a C-2 or a C-3 G-409 tire?
A. No, sir.
Q. Aren't you comparing the puncture frequencies between a C-3 and a C-2 G-409 tire?
A. No, sir? I'm comparing the puncture frequencies -- I'm analyzing the puncture frequencies experienced by the Goodyear fleet -- I mean the Greyhound fleet, over a range of time. And aligning that with the period of time when C-3 tires were coming into the fleet or were completely fitted to the fleet.
Q. So whether or not the punctures occurred on a C-3 or a C-2 G-409 tire, you are saying has no relevance?
A. That's correct.
Q. Could you even tell if this was a G-409 tire involved in this calculation --

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involved in this report?
A. Not from this record, no.
Q. Does it say what the cause of the flat tire was?
A. No, sir.
Q. Do you see the word puncture mentioned anywhere?
A. No, sir.
Q. Was the bus operating or parked when the flat tire was noticed?
MR. POLLAK: Objection.
A. No, sir. It says it continues on schedule, so. And, again, I don't know when the flat was noticed.
Q. Do you know who called in the report?
A. No, sir.
Q. Okay. Let's go to page 450. Did you utilize any of those entries?
A. No, sir.
Q. How about page 471?
A. Yes.
Q. Would that be on bus 30518 from August 16, 2005?

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A. Yes, sir.
Q. Again, is there a bus model indicated on this report?
A. No, sir.
Q. Does it indicate whether or not this is a C-3 or a C-2 G-409 tire?
A. No, sir.
Q. Does it indicate whether this is even a G-409 tire as opposed to some other type of tire?
A. No, sir.
Q. Does it indicate whether or not there was any failure in the tread or the sidewall of the tire?
A. No, sir.
Q. Does it indicate what the cause of the flat tire was?
A. No, sir.
Q. Do you see the word puncture indicated anywhere?
A. No, sir.
Q. Again, does this indicate whether or not the bus was operating or parked when the condition was first noticed?

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A. No, sir.
Q. Do you know who called in this report?
A. No, sir.
(Discussion off the written record.)
Q. In approximately how many of the entries throughout this exhibit would you say you utilized for purposes of your calculations?
MR. POLLAK: Referring to those exhibits, please.
MR. KAPLAN: Correct.
A. Yes, in those Exhibit 6 there are 20 front tire entries which suggests to me you missed a page or two, from August.
Q. From August?
A. From August 2005 because there are 22 entries.
Q. Do any of these entries indicate whether a C-3 or C-2 G-409 tire was involved?
A. No, sir.
Q. Did any of these entries indicate whether or not it was a G-409 tire as opposed

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to another type of tire?
A. No, sir.
Q. Did any of these entries indicate whether or not the tread area or the sidewall of the tire was involved?
A. No, sir.
Q. Did any of these entries indicate what the cause of the flat tire was?
A. No, sir.
Q. Did any of these entries indicate the word puncture anywhere?
A. No, sir.
Q. All that was indicated was the generic words "flat tire," is that correct?
A. Front tire flat.
Q. Was any indication given as to whether or not the bus was operating or parked when the condition was first noticed?
A. No, sir.
Q. Is any indication given in any of these entries as to who called the report in?
A. No, sir
MR. KAPLAN I have no further questions. Thank you very much.

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EXAMINATION BY MR. DACUS:
Q. Dr. Daws, my name is John Dacus. I introduced myself this morning when we began. I represent Motor Coach Industries in this lawsuit.
I want to see if I understand what your opinions are from your report and from your testimony today. First, is it fair to say that one of your primary opinions is that the tire failure that occurred on bus 6528 at the time of this accident on August 28, 2006, was the result of overloading, meaning, too much weight on the front axle of the coach, as compared to over-deflection which might result from underinflation?
A. Well, again, I would submit to you that the -- what I'm talking about is load in excess of what this particular tire is capable of handling.
You know, there is a range, when you build a series of tires, like Goodyear did over an extended period of time, and you have things like belt wire with a plus or minus 10 percent modulus, so there are, there is a

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range of strengths associated with those tires. These tires are mounted on a wheel which, you know, we're simply guessing at its load capacity, at the load capacity of the tire on this wheel.
And so in essence in, my opinion is that in this case, for this tire, this tire was loaded beyond what it could carry. Now, whether that load was in excess of 16,000 pounds or not, I don't really know because there is obviously no weight record for the bus, and, you know, things like that.
Q. All right.
A. And then because this developed a crack system in the tire, a progressive failure when the tire began to lose air on the date of the accident, it came apart in advance of when it would have come apart in a normal scenario where the tire had no progressive preexisting breakdown.
Q. What amount of overload do you theorize this tire was subjected to on bus 6528? And I'm talking about the left front tire.

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A. Well, the tire was subjected, in all likelihood, to a load in excess of 10 percent above what it would -- what it could carry.
Q. Okay.
A. Now, we don't know whether the tire could really carry 8,000 pounds or not on this wheel. Certainly the original load capacity for this size tire on this size wheel is 7610 pounds so we feel pretty confident it will carry that. But beyond that, I don't know.
Q. Now, this load in excess of 10 percent that you theorize was on this left front tire of the bus on August 28, 2006, what load is that in pounds?
MR. POLLAK: Objection. You can answer.
A. Again, if we knew what, you know, what the actual tire could handle, you know, the actual tire might be able to handle 7800 pounds or something like that, so you would have, or 7600, let's say 7600 pounds what the original T&RA spec was, you know, 10 percent

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of that would be another 760 pounds, so, you know, 8300, 8 thousand, yeah, 8300 pounds, something like that.

Q. Now, do you have an opinion to a reasonable degree of engineering certainty as to what the overload was on this particular tire on this particular bus on August 28, 2006?

MR. POLLAK: Objection. You can answer.

A. No, sir. It may not have been overloaded at all on that particular date, until it started losing air and then of course it would have been significantly, it would have been significantly overloaded.

Q. So you are not able to tell us with any degree of engineering certainty, whether the tire was even overloaded on the day of the accident. Is that right?

A. That's true.

Q. And what -- I want you to list for me, and you have done a job of explaining here but right now I'm just trying to understand the points that are the basis for your opinion

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that the left front tire on the coach that was involved in this accident had previously been overloaded, if it was not overloaded on the day of the accident?

MR. POLLAK: Objection. You can answer.

A. Again, the leak rate, my estimation of the leak rate won't support a leak beyond the date of the accident. So the damage in the tire, the preexisting damage in the tire is clearly longer, of longer duration than one day, probably longer duration, you know, tens of thousands miles.

So we're not, we're not in a situation where this damage, this preexisting fatigue damage in the tire could have come about because of this particular puncture. Which leaves, which leaves the overload, the loading the tire beyond its natural capacity as the opportunity for breaking it down, unless of course it has some kind of internal defect that we can't find after the accident.

Q. All right, so if I understand correctly, and you tell me if I get it wrong,

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your basis for all the things that are the basis for your opinion that this left front tire on the bus in question was overloaded at some point, if not on the day of the accident, are that the leak rate you calculated will not support the type of damage that you found on the tire, is that one of the points?

A. Will not support the damage, the fatigue crack damage in the tire, the polishing, the cracking associated with that portion of the forensic evidence.

Q. Now, the fatigue cracking and the polishing that you are talking about, you found on one of the pieces of the left front tire. Is that correct?

A. That's correct.

Q. But not on any others?

A. Well, remember, a large portion of the tire was missing at that location which would be consistent with a fatigue crack. I mean, a fatigue thumbnail grows from the belt edge of the tire into a crescent-shaped zone in between steel belts, and when the tire starts to come apart, the first pieces to come

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off the tire are at that location. That is also where the inner liner blew out and things like that. So the piece that we happened to have recovered, has that evidence on it.

Now, there are certainly other pieces; they just weren't recovered.

Q. But to answer my question, the fatigue cracking and the polishing that you described, is found on only one piece of the tire that was recovered. Correct?

A. That's the only piece that actually --

Q. Is that correct?

A. That's correct, yeah.

Q. And that determination by you about the leak rate, that's, the leak rate is what you determined from your analysis of the bubbles. Is that correct?

A. That is correct.

Q. And that determination about your leak rate, plus the presence of the fatigue cracking and polishing, leads you to the conclusion, without any other basis, that the loaded, the loading of the tire was beyond its

natural loading --

A. Actually there is two other factors there. The one that is shown in one of the exhibits where the air pressure, the historical air pressure of this tire indicates that it is from historical basis, properly maintained. So there is nothing long term, there is no long term underinflation of this tire.

And the second thing is when the NTSB ballasted their test bus, the front axle load was higher than 16,000 pounds. So hopefully they did a rep -- you know, they did a representative ballasting of their bus.

Q. So now we've got four things that leads you to the conclusion that the loading of the tire, the left front tire was beyond its natural load capacity.

One is the leak rate that you determined from the bubble analysis. Two is the fatigue cracking and polishing that you saw on one of the tire pieces. Three is the historical data that I believe was on one of the exhibits that you looked at, I believe it

is Daws Exhibit 3?

A. That's correct.

Q. And the NTSB ballasting of the coach used by the NTSB for testing where they were trying to produce delaminations and blowouts. Is that correct?

A. That is correct.

Q. Those four things. Any others?

A. Not that I can think of.

Q. Okay.

MR. POLLAK: Just note my objection to the form. I just, I think those, you counted two as one. I just think those are five things. You counted the fatigue and polishing as one.

MR. DACUS: Yes, I did.

MR. POLLAK: So I think there is five things that he mentioned.

Q. Now, the historical air pressure that you, you examined some data and you put together a chart Daws Exhibit 3, correct?

A. That's correct.

Q. Now, that historical data provides

nothing about the tire pressure record from August 18th, 2006 through the date of the accident, August 28th, 2006. Correct?

A. That's correct.

Q. And you were specifically not asked to look at the actions, activities, procedures, of the Greyhound personnel with regard to tire inspections and likeness, is that correct?

A. I was not retained to analyze any of it.

Q. And you didn't undertake to analyze any of that?

A. No, sir.

Q. In any manner?

A. No, way, shape or form.

Q. Now, what references did you use to determine that the fatigue cracking and the polishing, if I might put those two together, were the result of long-term overloading as opposed to underinflation?

MR. POLLAK: Objection. You can answer.

A. We already talked about the bases

of the opinion. I'm a little bit biased, but the best article about fatigue cracking and polishing are the, let's see, the Fractography of Tire Tread Separations by John Daws, the Failure Analysis of Tire Tread Separations, again by John Daws, the article Fractography Aids Study of Tire Tread Separations by John Daws, and the Forensic Analysis in Tire Tread Separations, again by John Daws.

Q. Did you use any references, papers, photographs, fractography, other than work that you had done, to determine that the fatigue cracking and the polishing were the result of overloading, as opposed to underinflation?

MR. POLLAK: Objection. You can answer.

A. Well, my work has been peer-reviewed, you know, so -- but it certainly matches the conclusions of Ron Smith and a few other people that have written about fractography. You know, so, but again --

Q. That's not my question.

A. This is something that I do

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routinely. This is the kind of work that I do routinely in terms of forensic analysis on tires.

Q. If you would please answer my question.

Did you use any references or work by others, other than yourself, to determine that the fatigue cracking that you observed and the polishing that you observed were the result of overloading other than your own work?

A. Again, in terms of my fractography analysis, that's based a lot on what Ron Smith did, as well as my own testing in the field. The rest is my analysis.

Q. And the work that Ron Smith did, can you point me a little closer to that?

A. Mr. Smith published -- or Dr. Smith published several papers on tire pieces picked up off of road sides, and what the tear patterns look like and how to analyze them.

I could provide you with references if you would like.

Q. All right. Any other work

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prepared by others in the field that you relied upon to determine that the fatigue cracking and the polishing that you observed on the tire piece, were as a result of overloading as opposed to underinflation?

A. No, sir.

Q. Now, are you saying that ten days of unknown tire pressure on the left front tire, immediately preceding the accident, are not sufficient to cause the fatigue cracking and polishing that you observed?

MR. POLLAK: Objection. You can answer.

MS. BOYLE: Just note my objection to the form of the question.

A. I'm saying that there is no -- no evidence whatsoever that the tire was punctured before the date of the accident.

So we can talk about pressure not being measured there, but it is certain the tire wasn't flat. So I don't know see any way where it could possibly have developed fatigue cracking. Fatigue cracking takes a substantial amount of time to develop.

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Q. And what do you mean by a substantial amount of time?

A. Thousands of miles.

Q. Thousands of miles?

A. Thousands of miles at a bare minimum. And on this type of tire it may take considerably longer.

Q. Have you done any testing to determine how long it takes to develop fatigue cracking or polishing on a commercial truck tire such as the Goodyear G-409?

A. No, sir.

Q. Are you aware of any testing done by others that you know the result of that indicate the number of miles or the length of time it requires to develop fatigue cracking or polishing, if you have an underinflated tire?

A. I am not. Certainly nobody's published any information like that.

Q. And neither have you, is that right?

A. I have not published information. I have certainly seen a lot of tires come back

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from the field while I worked for Michelin. So you get a feel for what we are talking about.

But, in general, this is not something studied, and every tire expert I know of relies on his experience to make that kind of determination.

Q. But that's all that you are relying on is your experience and not any references or studies or tests regarding the length of time or the number of miles it takes to develop the fatigue cracking and polishing. Is that correct?

MR. POLLAK: Objection. You can answer.

A. There are no tests. No tests whatsoever.

Q. And to answer my question, that's all you are relying on --

MR. POLLAK: Objection.

A. I'm relying --

Q. -- your experience?

A. -- on my education --

MR. POLLAK: John, you can answer.

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A. I'm relying on my education, my experience, my training.

Q. In your education and training, were you ever trained on the subject of how many miles or how much time is required to develop the fatigue cracking and the polishing that you observed in the left front tire of the bus in question?

A. I was certainly trained on the general aspects of fatigue cracking, polishing and so on, and then had the opportunity to observe many tires coming back from the field with those characteristics.

Q. But on these tires coming back from the field, I would gather that you would not know exactly what the inflation history of those tires had been in all cases? Am I right about that?

A. Well, for tires that were in general service, commercial service, you know, where the tire was sold to a customer and then came back due to a failure, no, but there were many tires that were in fleets that Michelin used for testing, and in those cases you had

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very good understanding about the mileage, about the air pressure or the air inflation and the load.

Q. Is it fair to say that underinflation can cause the type of fatigue cracking and polishing that you observed on the subject tire?

MR. POLLAK: Objection. You can answer.

A. It's fair to say that that can develop over fairly long period of time, yes.

Q. Underinflation produces over-deflection of the tire, is that correct?

A. That's correct.

Q. And if you have a substantial underinflation on a tire that is intended to be operated at 120 psi inflation pressure -- and by substantial I mean 40, 60, 80 psi below the intended inflation pressure -- that can produce a very significant over-deflection of the tire, correct?

MR. POLLAK: Objection. You can answer.

A. Well, not only can it produce a

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significant over-deflection of the tire, it can also produce in a much shorter term, sidewall failure with that kind of load, or that kind of underinflation.

Q. And have you done any testing to determine which will occur first with that type of underinflation: a sidewall failure or a delamination?

MR. POLLAK: Objection. You can answer.

A. Well, typical test strategies for bead and sidewall are heavily underinflated or heavily -- you know, heavily underinflated. If you want to exercise the summit, the shoulder of the tire, to provoke tread separation or separation that can lead to tread separation, you really need to run at closer to max pressure and max load. That is the -- and that's just based on, you know, the huge number of design tests that Michelin used to run on number of, I guess still does run, on numerous different design programs, you know, where you try to, you tried to exercise the bead and the sidewall and the tread system

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separately. That is, if you want to provoke a failure in the bead, how do you do that? If you want to provoke a failure in the sidewall, how do you do that? Okay.

Q. Have you run any tests to determine whether a bead or sidewall failure will occur with underinflation, significant underinflation, before a delamination?

A. I have not personally run such tests, no.

Q. And aren't aware of any?

A. Again, I saw lots of tests like that at Michelin.

Q. You didn't rely on any such tests in connection with developing your opinions in this case, correct?

A. But that's certainly my experience.

Q. But am I correct, you didn't rely on any such tests in developing your opinions in this case?

A. I don't have any Michelin tests that I can produce, no.

Q. Now, you talked about another

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factor in your determination that the tire in question was overloaded, if not on the day in question, at least on some day or some period of time earlier. And one of those points was that when the NTSB ballasted a 102DL3 coach for testing intended to produce delaminations and blowouts, they ended up with more than 16,000 pounds on the front axle. Correct?

A. That's correct.

Q. Have you done any study or analysis yourself of whether it is difficult or easy to overload the front axle of this type of coach?

A. No, sir.

Q. And do you know what parameters the NTSB used or what considerations went into the ballasting of the bus that they did?

A. No, sir, although they were trying to assess the handling characteristics of the bus for this accident, as part of this accident investigation.

So I would imagine that they were trying to get a picture for what the bus actually looked at in its loaded state. But,

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no, I don't have a picture. There is nothing in their report that would indicate that.

Q. You didn't attend the testing of the NTSB where they were attempting to produce delaminations and blowouts?

A. I did not.

Q. Have you read anything more on that testing than is noted in the Human Performance and Vehicle Group Chairman's Report of Operational Testing, 35 pages?

A. No, sir.

Q. Have you talked to anybody who participated in that testing?

A. No, sir. Not about the testing, no.

Q. Have you seen any of the data that came from that testing, other than the videos?

A. No, sir.

Q. Did you see any of the --

A. Well, other than what's in the report and the videos.

Q. Right.

A. Yes.

Q. In the report there is reference

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to some testing of steering efforts, torques?

A. Yes, sir.

Q. Do you recall that?

A. I do.

Q. Did you actually see any of the data relating to that?

A. Well, I think the data plots are shown in the report for each one of the delaminations.

Q. Yes, I know they showed data plots, but did you actually see any of the data that was collected?

MR. POLLAK: Objection. You can answer.

A. I'm not sure what you mean. What would be the difference between the data plotted and the actual data?

In other words, did I get a CD with bits and bytes on it, no.

Q. Did you ask for any of the data from that testing?

A. No, sir.

Q. I take it the data from that testing would be of no value or interest to

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you?

A. Well, again, I was asked to analyze the tire failure and to look at aspects about the tire. I'm not sure --

Q. Did you look --

A. I'm not sure the steering torque really plays much of a role in that opinion. You know, the tire has already failed by that point.

Q. So steering torques would not be of interest to you in connection with analyzing that testing?

A. Not the raw data, no.

Q. Did you ever see any of the unfiltered data from that testing?

A. No, sir.

Q. You only saw it after a filter had been applied to it?

A. That is correct and that would have been very interesting to look at because a two-second filter probably is way too long.

Q. Did you examine any of the tires that were intentionally delaminated or blown out --

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A. Yes, sir.
Q. -- from that testing?
A. I did.
Q. Which tires did you examine?
A. I'd have to cross-reference the G numbers. I know I looked at some of those tires before they left Dallas to go to the testing. And I would have to cross-reference the G numbers. I know there was some of them. I just don't recall which ones they were.
Q. Did you look at any of those tires after they were delaminated or blown out by the intentional efforts to do so?
A. No, sir, I did not.
Q. Now, in your report, as I understood it, you felt that one of those delamination tests was of greater interest than all of the other tests, and that was delamination test No. 5. Is that correct?
MR. POLLAK: Objection to the form. You can answer.
A. That's correct.
Q. And I would like you to tell us all the reasons why you felt that delamination

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test No. 5 was of greater interest in connection with this case than any of the other tests?
MR POLLAK: Objection. You can answer.
A. Delamination No. 5 in review of the video data which is basically the snapshot of the tire failure after the 15-minute run, in other words, the tire first lost a piece of the inside tread rib, but it didn't lose air pressure and the rest of the tire was intact. So the decision was made to proceed and at that point in time the tire was run until it sustained a tread separation, a blowout.
And the interesting thing, when you look at the video for that tread separation and blowout, is the tread separation and the blowout occur at the same time. That is, you know, the tread separation begins and the tire blows out in simultaneous fashion. And in my opinion, that is exactly what happened in this tread separation. That is, at the time the tire started to come apart over those fatigue cracks, the inner liner

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blew out. So we had a tread separation and a blowout at the same time.
Q. Did you examine any of the steering data from the steering instrumentation that was used in delamination No. 5?
A. I did not.
Q. Did you examine the tire or what was left of the tire after delamination No. 5?
A. I did not.
Q. In delamination No. 5 the NTSB report of operational testing indicates that:
"Delamination No. 5 occurred with the vehicle traveling at 80 miles per hour on the left curb beginning with the partial separation and detachment of the inboard tread. Delamination occurred at a tire pressure of 41.9 psi and a temperature of 320 degrees Fahrenheit with no loss of inflation."
Did I read that correctly?
A. You certainly did.
Q. Did you actually see any photographs or any video of the initial

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separation, partial separation and detachment of the inboard tread?
A. No, sir. There was none produced to me.
Q. The NTSB report authors indicate that delamination occurred at a tire pressure of 49.1 psi and a temperature of 325 degrees Fahrenheit, with no loss of inflation.
I take it, then, you would disagree with the authors of that, that what occurred at that point was, in fact, a delamination?
A. Absolutely. A delamination, basically this is a tread chunk, for lack of a better terminology. The tread piece or section of the tread rib has detached based on heat. So this is not a delamination where the tread and the tread belts come off.
Q. Can tread belts come off a tire due to heating?
A. If you push it far enough, sure. Most -- in fact, in medium radial truck tires most flat tires ultimately result in sections of the steel belts coming apart.

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J.W. DAWS

Q. So heating is enough to produce a delamination?

MR. POLLAK: Objection to the form.

A. Again, heating is enough to cause a breakdown of the tire. So if you want to call it -- it is not a delamination in the sense that most of these delam tests were involved, because most of these delam tests did not result in a deflation of the tire.

Q. And you do understand that after inspecting the tire on delamination No. 5, the NTSB testers actually decided to continue driving on it for more than 15 minutes before the tire spontaneously deflated, correct?

A. Again, had the -- yeah, I understand that completely and had the tire had, truly had a delamination, there is no way you could have driven it down the road for 15 minutes at 80 miles an hour.

Q. Now, isn't it true, at least from the report of the operational testing which is all that you have been privy to regarding this NTSB testing, that the tire spontaneously

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deflated over a 3-second interval, immediately followed by a catastrophic and complete disintegration of the tire?

MR. POLLAK: Objection to the form. You can answer.

A. That's what the report says, yes.

Q. Now, did the left front tire of the coach in question here, completely disintegrate?

A. Well, it certainly threw the tread and most of the steel belts, or most of the tread and a large chunk of the steel belts. But remember, it went off the road long before it ever finished rolling. So it didn't wind up looking, you know, it didn't completely disintegrate like this tire, but this tire once it became deflated, you know, rolled to a stop, where the tire in our case didn't do that. And there is always a tremendous amount of variability between the end look of tires.

Q. In at least a few respects you'd agree that delamination No. 5 is not the same as what occurred in the accident in question?

MR. POLLAK: Objection to the

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form. You can answer.

A. No, sir, I wouldn't agree with that at all.

Q. In every respect it is just the same?

A. It's almost identical, except that, you know, what we don't have in our case is the tire having a low enough air pressure to start throwing a tread rib in advance of the failure.

Q. What was the air pressure of the tire in question before it delaminated?

MR. POLLAK: Objection to the form of the question.

A. Nobody knows, but at the same time in delam No. 5 it was down to 42 psi.

Q. So you don't know what the tire pressure was on the tire in question just before the delamination?

A. No, sir.

Q. And don't have an opinion?

A. Well, I don't know.

Q. And don't have an opinion?

A. Well, again, I would suggest to

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you that it was considerably higher than 42 psi just because the leak rate won't support that kind of a 30 to 40 psi number.

Q. Setting aside the leak rate for the moment, do you know or do you have an opinion what the air pressure was in the left front tire of the coach in question just before the tire delaminated and the accident occurred?

MR. POLLAK: Objection. You can answer.

A. I do not know what that pressure was. Nor does anyone else.

Q. Now, you disagree, then, I take it, that there was a complete disintegration of the tire on delamination No. 5, but there was not a complete disintegration of the tire, the left front tire, of the coach in question at the time of this accident?

MR. POLLAK: Objection. You can answer.

A. I disagree that they are comparable at the point of rest. And the reason they are not comparable to point of

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rest is in delam No. 5 the tire continued to be driven until the bus was brought to a stop. Whereas, in our accident, the bus left the road. And at that point in time, you don't continue to destroy the tire.

Q. And you don't feel that the continued driving of the tire for 15 minutes after it had already thrown a portion of the tread in delamination No. 5, is different than the operation of the coach in question at the time of this accident?

MR. POLLAK: Objection.

A. Well, again, I think the starting point pressure of the two cases is different which is why you have that piece of tread rib coming off on delam No. 5. So they start at a different pressure point.

MR. DACUS: Could you read back the question, please.

(Record read.)

A. Well, there is no evidence to suggest that a tread rib came off 15 minutes before the tire failure, that's correct.

Q. They are different in that sense?

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A. Well, in that sense, yes.

Q. Now, did you look at delamination No. 2 at all?

A. I did.

Q. In that particular delamination test, the report of operational testing indicates that the bus was traveling at 78 miles an hour and entering into a right curve, is that correct?

A. Yes.

Q. And that the tire was delaminated with great force and lost inflation with only about 2 seconds of precipitating separation providing limited warning to the driver of the impending failure, although vibration was noted by the driver and those aboard the coach. Did you find that?

A. Yes. I'm looking for my chart.

Q. What chart are you looking for?

A. Chart where I have the different delams.

MR. POLLAK: Take your time, John.

A. And with my notes on that. Okay.

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MR. DACUS: Could you read back the question before he looked for the chart.

(Record read.)

Q. That's what the report describes, is it not?

A. That is what the report describes, yes.

Q. Is that dissimilar to what was described in this accident?

A. Yes, it is.

Q. And how so?

A. Well, if you look at the video, basically you get a tread separation and then you get where the casing stays inflated, and then two seconds later, you get a blowout. So it is not a simultaneous event. Whereas, in delam 5 it is a simultaneous event.

Q. And at what tire pressure and temperature did delamination No. 2 occur?

A. Well, the NTSB report sets 30.7 psi and a temperature of 297 degrees Fahrenheit.

Q. And do you have reason to doubt

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any of that?

MR. POLLAK: Objection.

A. No, sir.

Q. Certainly, from these delamination tests performed by the NTSB, it would appear that you can make a tire delamination occur by lowering the pressure in the tire. Correct?

A. That is correct, yes.

Q. And so there is no question that if the pressure were allowed to get low enough in a left front tire such as on the coach in question, that it could produce a delamination. Correct?

MR. POLLAK: Objection.

A. Well, that's exactly what happened here. Only you didn't have to get the pressure very low because the tire already had a separation working in it, as opposed to a tire that has full integrity, you have to drive it longer and harder and at lower pressures to make that happen.

Q. Was the fatigue cracking and the polishing that you observed on the one piece of the tire in question, enough fatigue

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cracking to cause the tire to have a tread separation?

MR. POLLAK: Objection. You can answer.

A. Not without a loss in air pressure, no.

Q. And what you have done is assumed that there would be other pieces that weren't found that also had fatigue cracking and polishing on them?

A. There have to be.

Q. But that's an assumption you've made?

A. No, it's not, it's a fact. There's -- I mean, obviously I don't have the pieces, but they got to go together and you can see the cracking going up and where the tread belt ends. You know that there are cracks on the other side of that piece where it's missing. It can't be otherwise.

Q. But you only saw it with your own eyes in one piece, is that correct?

A. Yes, sir.

Q. That's a fact?

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A. Certainly.

Q. And you have assumed that it proceeded into other pieces?

MR. POLLAK: Objection: asked and answered. Objection to the form.

A. Based on my education, testing, experience, training, so on, yes. I --

Q. Because you didn't see it on the other pieces?

MR. POLLAK: Wait a second, John, you interrupted his answer. Can you please let Dr. Daws finish his answer.

A. Because those pieces were never recovered for examination. It is not like I simply ignored them. They don't exist.

Q. I'm not suggesting that you --

A. They are not there. But you know that the fractography evidence has to be continuous. That's a must. It can't be otherwise. And if they are continuous, then they go into the next piece, wherever that piece wound up.

Q. But your own eyes didn't see those pieces, correct?

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A. That's correct. It doesn't mean they don't exhibit. It just means I didn't see them.

Q. And as a matter of fact, there is no one else who has investigated this accident who has ever seen those pieces either, is that correct?

MR. POLLAK: Objection.

A. That's my understanding. All the pieces that were collected, were provided for inspection.

Q. And is there anything about delamination No. 2 that you think makes it unlike the accident in question, other than the couple of seconds delay between the delamination and the blowout?

A. Well, again, I didn't get to look at the tire at the end of, at the point of rest for delam No. 2, just like I didn't get to look at for delam No. 5.

So the only thing I can do is look at the video and say this doesn't conform to my analysis of what happened to the tire in this bus accident.

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Q. And because delamination No. 2 does not conform to your analysis, you have discounted it as being representative of what occurred in this accident. Is that correct?

MR. POLLAK: Objection. You can answer.

A. That's correct.

Q. Isn't it a fact that in both delamination No. 2 and in delamination No. 5, there was no loss of control by the driver of the test bus involved in the NTSB testing?

MR. POLLAK: Objection. You can answer.

A. Well, that's true. But you got to remember that that testing was done on a track which is, you know, wide. The driver knew something was going to happen. He just didn't know exactly when.

Contrast that to the accident where the bus is between an 18-wheeler and a drop-off with a distance of about 12 feet, you know, something, a little space on the side, you don't have a lot of room to maneuver. And we don't have the path data for the bus. We

don't know how much swerving back and forth the bus actually did in these tests before it came to rest.

Q. Because you weren't provided with all the data from the testing.

A. Well, I don't know whether they actually recorded that. I mean, did the bus carry a GPS system? I don't know.

Q. Well, actually the test report indicates that it did.

A. Well, you know, there is a big difference between a GPS system for measuring speed and a GPS system that is accurate enough to track the path of the bus, if you will.

Q. Did you ever ask Greyhound for any of the data for the delamination tests performed by the NTSB?

MR. POLLAK: Object to the form.

A. I did not.

Q. Would you have expected Greyhound to provide you with all of the data from the delamination testing, not just the video and the NTSB report?

MR. POLLAK: Objection. You can

answer.

Q. If they had it?

A. I don't see why they wouldn't have provided it to me if they had it.

Q. It wouldn't be of interest to you?

A. Yeah, I think with, you know, the data could be interesting. Again, you would have to know how the data acquisition system was set up and exactly what was happening and so on.

Again, my biggest criticism of this data is the filtering because, you know, a tread separation basically makes a -- you get a steering impulse or a braking impulse force every time the tread flap hits the fender which is ten times a second. And so you have in delam No. 5, for example, you have three peaks, three steering peaks. That doesn't really represent what's actually happened.

Q. And if the unfiltered data had been provided to you, you could have looked more closely at what was occurring during the delamination and blowout events?

A. It would have been another piece of data to work with, yes.

MR. POLLAK: I want to take a break. Is this a good time to take a break?

MR. DACUS: Yes, that would be fine.

THE VIDEOGRAPHER: We are now going off the record at approximately 6:51 p.m. This is the end of tape No. 6.

(Dinner recess: 6:51-7:44 p.m.)

EVENING SESSION

7:44 p.m.

JOHN WILLIAM DAWS,

having been previously duly sworn, was examined and testified further as follows:

THE VIDEOGRAPHER: We are going back on record at approximately 7:44 p.m. This is the beginning of tape No. 7 in the Daws deposition.

CONTINUED EXAMINATION

BY MR. DACUS:

Q. Dr. Daws, am I correct that you have never worked for a vehicle manufacturer?

A. I have never been employed by a vehicle manufacturer, that's correct.

Q. I take it then your experience and background would not include having ever set load capacity on any vehicle?

A. That's one of the things that I -- I specialize in -- one of the things I specialize in is tire applications for vehicles, how to select the proper tire for the vehicle.

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Q. But setting load capacity for a vehicle, you have not done?
A. I have done cases where the load capacity was improperly set.
I have never designed a vehicle and set the load capacity for said vehicle, that's correct.
Q. And you have not been involved in setting the load capacity for a vehicle, correct?
A. That's correct.
Q. Similarly, you have never set a front axle weight rating or a gross vehicle weight rating on any vehicle, correct?
A. That's correct.
Q. You did examine the right front tire of this coach that was involved in the accident. Is that correct?
A. That's correct.
Q. Did you find any evidence of overloading on that tire?
A. No. Wouldn't expect to see anything different than what was on the left front tire, and the only reason you could

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determine overloading was the fact that the tire was torn apart.
Q. Did you ever disassemble or cut into the right front tire to examine if it showed any overload?
A. Absolutely not.
Q. Did you request to do that?
A. No, sir.
Q. Why not?
A. It's just not done in forensic circles. You do a visual and tactical inspection, that was the forensic examination.
Q. What was the disposition of the right front tire in this coach?
MR. POLLAK: I'm sorry?
Q. What was the disposition of that tire?
MR. POLLAK: Objection to the form.
A. I'm not sure what you mean by disposition.
Q. Was it put back on another coach, was it --
A. Last time I saw it, Goodyear had

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it.
Q. How much overload is required to produce the fatigue cracking and polishing that you found on the piece of the tire in question?
MR. POLLAK: Objection. You can answer.
A. Probably something on the order of 10 percent. Again the question is what exactly is the load, you know, how much load can that tire really carry.
We don't really know the answer to that question, but, you know, if it is loaded beyond 10 percent of what it can actually carry, you can get that kind of damage over a fair amount of time.
Q. Is anything less than 10 percent enough overload to produce the kind of fatigue cracking and polishing that you found in the piece of the tire?
A. Obviously, if the tire -- you can't overload a tire by 5 percent forever. Okay. So -- and obviously on this bus the tire's not overloaded every time the bus runs.

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So, you know, that doesn't mean that if you overload the tire by 5 percent, it will never fail. You know, nobody really knows what the safety margin is on tires.
Q. There is a safety margin, though, is there not?
A. Not necessarily. Safety margin may very well be negative on this tire.
Q. Did you assume that there was a safety margin or no safety margin on this tire?
A. I'm sorry, why -- I wouldn't make any sort of assumption like that.
Q. So the answer to my question is you don't know how much overload it would take to produce the kind of fatigue cracking and polishing that you observed on the piece of the tire in question?
MR. POLLAK: Objection. You can answer.
Q. Is that correct?
A. If the load was running, let's say 10 percent over what the tire could really carry, then you would get this kind of

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situation.
Now, what that tire really is capable of carrying, you know, didn't really know.
Q. Can you give me a load in pounds or kilograms or however you want to do it, that will tell me what the load is required to be in order to produce the kind of fatigue cracking and polishing that you observed on the piece of the tire in this case?
MR. POLLAK: Objection. You can answer.
A. I would say anything in excess of, I would think you run into trouble above 7610 pounds.
Q. So it is your opinion that at any load above 7610 pounds, this tire was overloaded sufficient to produce the kind of fatigue cracking and polishing that you observed?
MR. POLLAK: Objection. You can answer.
A. Over its entire life, yeah.
Q. So at 7650 pounds, this tire was

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overloaded?
A. Again, we don't know the answer to that question.
Q. Okay. For how long would it be required to have an overload just above 7610 pounds to produce the kind of fatigue cracking and polishing that you observed?
MR. POLLAK: Objection. You can answer.
A. For its entire lifetime.
Q. 91,000 miles?
A. 91,000 miles.
Q. Will any duration of overloading, less than its entire lifetime at just above 7610 pounds, cause the kind of fatigue cracking and polishing that you say you observed?
MR. POLLAK: Objection. You can answer.
A. The higher -- the greater the load, the shorter duration it takes.
Q. That tells me you know the direction that it moves in, but do you know the duration in months, years, trips or

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miles --
MR. POLLAK: Objection.
A. No.
Q. -- that it would take to produce the fatigue cracking and polishing that you observed here?
MR. POLLAK: Objection.
A. No, sir.
Q. Now, is it fair to say that there was no direct evidence of any overloading of the front axle of this coach --
MR. POLLAK: Objection.
Q. -- although there may have been some conclusions you drew about overload?
MR. POLLAK: Objection. You can answer.
A. You mean were metal parts broken or something like that?
Q. Direct evidence, weights, measures, axle weights, studies by you of the effect of bus loading on axle weights, wheel weights, wheel loads?
MR. POLLAK: Objection. You can answer.

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A. The only number that would be equivalent to a weight would be the ballasted NTSB bus.
Q. And we have already established, you didn't participate in that ballasting and do not know how representative it was of the loading, the actual loading of this coach?
A. That's correct.
Q. So, with the possible exception of the ballasting by the NTSB in their tests that you validate in Texas, you have no direct evidence of any overloading having occurred on this coach?
MR. POLLAK: Objection. You can answer.
A. There were certainly no coach weights for this coach, that's correct.
Q. Did you ask Greyhound for any information about the loading of this coach?
A. No, I did not.
Q. And I take it no information about the loading of this coach on the various trips it took was provided to you?
MR. POLLAK: Objection. You can

answer.
A. That's correct.
Q. Have you ever made a study of the deflection produced in a Goodyear G-409 tire produced by overloading of any level?
A. No, sir.
Q. Have you ever made any study of the deflection produced in a Goodyear G-409 tire by underinflation at any level?
A. Have I personally made such a study?
Q. Yes, sir.
A. No, sir.
Q. Have you performed any tests about the amount of deflection produced by overloading or by underinflation on a Goodyear G-409 tire on this type of coach?
A. No, sir.
Q. During your examinations of tires, did you have access to any 102DL3 coaches with Goodyear G-409 tires on them to inspect?
A. Only the Opelika coach, the Opelika case coach, and this coach. You know, wrecked vehicles.

Q. Were you ever at a Goodyear -- I mean, not a Goodyear, but a Greyhound garage where there were 102DL3 coaches with G-409 tires mounted on the coach?
A. Yes.
Q. Did you ever request an opportunity to perform any inspections or tests with such coaches and such tires when you were at Greyhound facilities where they were located?
MR. POLLAK: Objection. You can answer.
A. No, sir.
Q. With regard to your bubble analysis -- is that the right word to --
A. It's a leak rate analysis.
Q. Okay. With regard to assessing the bubbles in the videotape that you saw and performing the leak rate analysis, did you ever do any testing to confirm that you had indeed calculated the leak rate appropriately?
MR. POLLAK: Objection. You can answer.
A. I don't even know what that

question means.
You can't reproduce this puncture, so I don't know how you could do testing to determine that -- whether the calculation was correct or not.
Q. Did you attempt to perform any testing --
A. No, sir.
Q. -- to confirm the bubble rate measurement and the leak rate analysis?
MR. POLLAK: Objection. You can answer.
A. No. No, sir, I did not.
Q. Other than your analysis of the NTSB delamination and blowout testing covered in the report of operational testing, did you analyze any other testing to confirm any of your opinions or conclusions in this case?
MR. POLLAK: Objection. You can answer.
A. I don't believe so, no.
Q. And with regard to the NTSB testing of delamination and blowouts, you did not get to see all of the information related

that testing, correct?
MR. POLLAK: Objection to the form. You can answer.
A. There certainly was other data that I wasn't privy to.
Q. Nor did you get to inspect the tires involved in that delamination testing after the delaminations?
A. That's correct.
Q. Are you saying that MCI should not have relied on Goodyear regarding the load rating of the G-409 tires?
A. I'm saying that the load capacity of the tire was compromised by the 8-1/4 inch rim, and the bus should have been fit with 9-inch wide rims and then the load capacity would have been something that would have been standard. That is, that, you know, that the letter dialogue that covers that approval of 8,000 pounds, is -- I mean, within a couple of days, Goodyear goes from 7,600 pounds to 8,000 pounds, and, you know, when you are building a brand new bus, I guess I don't understand why you don't put the proper wheel on it. If the

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wheel calls for either a 9 or a 9.75, why would you go out on a limb and put an 8-1/4?

Q. But answer my question, if you will, and that question was, are you saying that MCI did something wrong in relying on Goodyear regarding the load rating of the tire?

A. Well, MCI had no choice but to rely on Goodyear for the rating of the tire.

Q. Is it true that vehicle manufacturers rely on tire manufacturers all the time to specify load ratings of tires?

A. That is correct.

Q. Are there any other areas of the investigation of the cause of this accident that you were told to stay away from other than the areas involving Greyhound's conduct?

MR. POLLAK: Objection to the question. You can answer.

A. I wasn't asked to stay away from the issue of conduct. I simply wasn't retained to study it. And it certainly wouldn't be commensurate with my background to deal with that issue.

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Q. Your background would certainly include analysis of whether a tire had been kept properly inflated. Would it not?

A. That is part of my analysis, and I did part of this analysis on this tire.

Q. But you didn't do that analysis with regard to the last ten days of this tire's life before the accident, correct?

MR. POLLAK: Objection. You can answer.

A. I have given you my opinion on the fact that I don't believe the tire was underinflated.

Q. I understand you have given us the opinion, but you didn't conduct an investigation to determine whether the tire was inflated -- underinflated during the last ten days, or any time during the last ten days of its life just before this accident, correct?

MR. POLLAK: Objection.

A. There is no possible way of doing that.

Q. You didn't read --

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A. I didn't do it. There is no possible way to do it.

Q. Did you read any depositions of Goodyear personnel -- not Goodyear, I'm sorry; Greyhound personnel who were or may have been involved in inspecting the tire in the last ten days of its life?

MR. POLLAK: Objection. You can answer.

A. I did not.

Q. Did you examine any deposition testimony or deposition exhibits from the Greyhound garage manager, Mr. Richard James?

A. No, sir.

Q. Did you look into whether Greyhound required that its mechanics take tire pressure readings on every occasion that the bus came in for a service lane service?

MR. POLLAK: Objection. You can answer.

A. I did not.

Q. If you had been thoroughly investigating the inflation history of this coach and had been asked to look into it by

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Greyhound, would you agree that finding out what Greyhound required of its mechanics and what its mechanics were actually doing in the last ten days of this tire's life, would have been something that you would want to look at?

MR. POLLAK: Objection. You can answer.

MS. BOYLE: Note my objection.

A. Not unless they are recording tire pressures. Again, if there is no recording of tire pressures, it doesn't do you any good. You can try to recreate history, but it is just not going to be there.

Q. Were there any other areas of the accident investigation where you were not retained to develop opinions, other than the area of Greyhound's conduct?

MR. POLLAK: Objection to the form of the question.

A. Certainly.

Q. And what areas were those?

MR. POLLAK: Just note my objection to this question.

A. I wasn't asked to look at accident

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reconstruction. I wasn't asked to look at handleability of the bus. I wasn't asked to look at, you know, mechanical components of the bus. I wasn't asked to look at human factors, injury causation. The list is long.

Q. And in each one of those areas, those areas would not be something that you have any background or experience in, is that correct?

MR. POLLAK: Objection --

A. No, sir, that's not correct. It's just that I'm a tire expert. I make my living as a tire expert and nobody is going to retain me to do accident reconstruction because that costs too much.

You know, they are not going to retain me -- well, accident reconstruction in particular, I have quite a bit of experience working in accident reconstruction when I was with Exponent, but it is not something that I do as a matter of course.

Q. Do you actively do accident reconstruction in connection with your work for Daws Engineering?

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A. What I do is analysis of skid marks on the road in conjunction with the accident reconstructionist that happens to be working on a case, but that's about it.

Q. But you don't do that on your own?

MR. POLLAK: Objection. You can answer.

A. I don't routinely do accident reconstruction, no.

Q. Now, with regard to the placard that was on this coach, that placard indicated that the bus had a 48,000 pound gross vehicle weight rating?

A. I believe that's correct.

Q. And that placard called for tires that were not actually being used by Greyhound at the time of this accident, correct?

A. That's correct. In fact, the tire that's called out for in the placard couldn't possibly be correct, given the axle, front axle load rate.

Q. And because Greyhound was not using that tire, that tire specification on the placard made no difference?

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MR. POLLAK: Objection.

Q. Am I right about that?

MR. POLLAK: Objection. You can answer.

A. It certainly didn't cause the tire to -- the tire that did fail to fail.

On the other hand it makes the bus not conform to SMVS regulations.

Q. But it had nothing to do with this accident, did it?

A. That's correct.

Q. And similarly, with regard to the proper inflation pressure for the steer axle tires, that placard did not have anything to do with whether Greyhound understood that it needed to keep 120 psi in these tires?

MR. POLLAK: Objection. You can answer.

Q. Correct?

A. That's correct.

Q. Did Greyhound have a duty to your knowledge to keep the bus weight within the gross vehicle weight rating?

MR. POLLAK: Objection.

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A. My experience with these kinds of things is, you have 52 seats, you can fill them up. Or 55 seats or whatever it is, however many there are, you can fill them up. And since you don't weigh people, you don't really know what the axle loads and all are.

Q. Have you looked into whether there are state or federal laws relating to maintaining a commercial vehicle within its gross vehicle weight rating?

A. I have not.

Q. So whether Greyhound had a duty to keep this bus loaded within the gross vehicle weight rating, is something you really haven't studied and don't have an opinion of?

A. I do not have an opinion on that.

Q. Would the same thing be true with regard to the gross axle weight rating of the front steer axle?

A. I have no opinion on that.

Q. Can you explain to us, if this left front tire on the coach in question had gone 91,000 miles as you indicate that it did, why it failed at this particular time instead

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of on some previous occasion?
MR. POLLAK: Note my objection. You can answer.
A. Sure. When the, yes, I can explain it.
Q. And is it based on the fact that there was underinflation of this left front tire due to the puncture?
MR. POLLAK: Objection. You can answer.
A. It's based on the fact that there was a loss of air pressure associated with this puncture, and the tire had a preexisting fatigue breakdown in process.
Q. Now, how do you determine, and I would like to know here a listing of all the bases for your opinion, that the tire had a preexisting breakdown?
MR. POLLAK: Just note my objection.
Q. And if you have previously explained, I don't need, you know, a full explanation again.
MR. POLLAK: Don't say anything.

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Q. I just am looking for a listing of what you base the opinion on that this tire had a preexisting breakdown before the puncture.
MR. POLLAK: Just note my objection. I would just like to check the time, because I think at this point, Mr. Dacus, you spent your first part of your questioning on this topic, and we spent an entire day on that topic. And I think at this point this is abusive on your part to ask the same question again. You self-qualified that by indicating that there had been previous testimony on this and you asked the questions before we took a dinner break.
So I'm going to check on how much time we have left, but I may not allow him to do that. If you are going to spend your time going over the entire day again when we are past the seven hours, I think that is abusive and I will move for a protective order at this point. But I want to just count how

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many hours we have been doing this so far.
MR. DACUS: You are welcome to count, but I certainly have not been questioning this witness for anything like 7 hours.
MR. POLLAK: I didn't say you did.
MR. DACUS: And I am proceeding as rapidly as I can.
MR. POLLAK: I didn't say you weren't.
My objection is to the fact that you are being extremely repetitive and I believe at some point that becomes abusive in the legal sense, or harassment in the legal sense.
Obviously, you are not talking loud to the witness, threatening the witness. It is obvious, but I believe from a legal prospective that is harassing and abusive.
So I'm going to check the time and then I'll make a decision if I'm going

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to allow you to continue with this questioning or move for a protective order.
MR. DACUS: I disagree with you. Obviously --
MR. POLLAK: I'm sure you do. I'm sure you do.
So why don't we just go off the record at this point for a few minutes.
THE VIDEOGRAPHER: We're now off the record at approximately 8:10 p.m.
(Discussion off the record.)
THE VIDEOGRAPHER: We're now back on record, approximately 8:12 p.m.
MR. POLLAK: Just before we answer the question. The witness has been here being questioned for approximately 7 hours and 15 minutes. Again, it is my belief that we are approaching the abusive stage or harassment stage, but over objection, I believe this has been asked and answered repeatedly during today's deposition, including by Mr. Dacus himself. But over objection, I

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will allow the witness to answer.
A. The first indication is the presence of polishing. Polishing is prima facie evidence of preexisting breakdown. That is, this cracking existed in the tire prior to the tire failure. It can't occur at the time of the tire failure.
Q. Let me interrupt briefly, and I don't mean it be disrespectful to you. I'm just -- I'm looking for evidence that it was preexisting before the -- or your basis for concluding it was preexisting before the tire puncture.
MR. POLLAK: Mr. Dacus, you just went out of your way to stop Dr. Daws from giving his answer, and then you asked the same exact question.
So Dr. Daws, please continue with your answer before you were interrupted by Mr. Dacus. Please continue with your answer.
MR. KAPLAN: Kevin, with all due respect, if you want to limit the time that this witness is being questioned,

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the witness clearly was not answering the question that Mr. Dacus asked him. Mr. Dacus corrected him. The question was, was the breakdown preexisting the puncture, not preexisting --
MR. DACUS: The accident.
MR. KAPLAN: Correct.
A. And --
MR. POLLAK: Were you finished answering the last -- I mean, again, you stopped the witness dead in his tracks. If you didn't feel the answer was responsive, then, as you have done before, you could ask the reporter to ask the question again, you can say whatever you want, but you have no right to stop the witness in the middle of his answer and cut him off. Whether it is responsive or not to your question, you have no right to do that.
MR. DACUS: Well, I admit I was trying to shortcut this, but if he wants to answer the question I didn't ask, then I'm happy for him to do so. But

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then I'm going to ask him the question that I did ask.
MR. POLLAK: You can do whatever you want, just please don't interrupt this witness in the middle of his answer. I'm sure he wouldn't do it to you in the middle of your question, so extend him the same courtesy.
MR. DACUS: I will do so.
MR. POLLAK: Thank you. Can you please continue with your answer.
THE WITNESS: Can you ask me the question again, please.
Q. Yes, I think I can. What I was trying to find out is a listing of the bases for your opinion that there was preexisting breakdown in the left front tire of this coach before the puncture occurred and the underinflation began?
MR. POLLAK: Again, just note my objection to the form, note my objection for all the other reasons previously stated on the record.
Over objection, you can answer.

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A. The polishing, the fatigue cracking and polishing, the rate that I assessed for the leak, the leak rate itself, and I think those two or those three things together identify that the fatigue cracking and polishing predate the puncture and predate the tire failure.
Q. Without the leak rate, if there were a mistake in your leak rate analysis or if you didn't have the leak rate analysis, would the fatigue cracking and polishing be enough to establish that there was a preexisting breakdown in the left front tire of this bus before the puncture occurred and the underinflation began?
MR. POLLAK: Objection. You can answer.
A. I would suggest to you that this puncture, whatever it is, is not sufficient to or could not have been in the tire long enough even at a fairly low leak rate to create this cracking and polishing.
Q. Have you ever tested any Goodyear G-409 tires on 8.25-inch rims and compared

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them to the performance of G-409 tires on 9-inch rims?
A. No, sir.
Q. Have you ever seen any testing where that was done in any form whatsoever?
A. Absolutely not.
Q. Could you tell me all the bases that you have for your opinion stated in your, I believe it was your rebuttal report, that the rim grooves on the subject tire were linked to use on the 8.25-inch rims?
A. Certainly. The, my experience in looking at rim grooving across a wide range of wheel widths. Typically in custom tire fitments on passenger and light truck vehicles, if you fit the tire, a wider tire on a rim that's too narrow for it, you will very quickly develop bead grooving based on the flexing of the bead over the rim flange. Narrow rims generate bead grooves much more quickly and much larger than an equivalent set up on an approved width rim. And I have done that testing for passenger and light truck. Okay?

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Q. But you have not done that testing for commercial tires?
A. No, I have not.
MR. POLLAK: Did you finish your answer before Mr. Dacus asked another question?
THE WITNESS: It's fine.
MR. POLLAK: Mr. Dacus, you interrupted in the middle of the witness' answer which I think is evident from the videotape. Please don't do that.
MR. DACUS: I may have interrupted at the end of his answer.
MR. POLLAK: You certainly did.
MR. DACUS: But I didn't interrupt in the middle.
MR. POLLAK: Well, the end is not much better than the beginning. It is still interrupting the witness, the witness's answer, which is not appropriate or proper.
Q. At the time Goodyear G-409 tires were first applied to -- strike that.

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At the time that the front tires of the bus in question were applied to the front steer axle, they were applied on 8,000 pound-rated Firestone Accuride wheels, correct?
A. That's correct.
Q. And at that time Goodyear had given a rating to those tires of 8,000 pounds load capacity, correct?
A. That is correct.
Q. And at that time the Tire and Rim Association manual would support the application of Goodyear G-409 tires in the 315/80R 22.5-inch size to that wheel on that axle. Correct?
MR. POLLAK: Objection. You can answer.
A. Can you be more specific about what you mean by manual?
Q. The Tire and Rim Association manual?
A. The yearbook or the engineering design information?
Q. The yearbook.

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A. I don't believe the yearbook contains that rating in 2005. I'd have to check that, but I don't think it's gotten there by then. But it may have. Let's see.
Q. Well, let's check.
A. Okay, I don't have the yearbook pages for 2005, but the earliest this would have been in a yearbook is 2006 because the rev 4 of the EDI is dated April 13, 2005, and the yearbooks come out in January.
So the earliest yearbook indication that this would have been acceptable would have been in the yearbook for 2006.
Q. But you don't have the yearbook for 2005 there to determine if that's correct or not?
MR. POLLAK: Objection to the form. You can answer.
A. No, but, again, I have the date on the EDI and nothing can, you know, nothing can happen in the yearbook before it happens in the EDI.
Q. And it is true that the EDI --

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what is that, Engineering Design Information?
A. That's correct.
Q. The EDI was also changed on the Tire and Rim Association publications to permit the application of this size tire on this type of wheel for a 16,000-pound axle, correct?
A. That is correct based on someone's say-so.
You know, the Tire and Rim Association obviously did no testing on it, so they are taking the word of somebody, some tire company.
Q. Do you know whether MCI was even involved in the decision to put Goodyear G-409 tires in this size, the B315/80R 22.5-inch tires on this coach?
A. No, sir, I do not.
Q. And certainly you would not expect MCI to be involved in the testing of the Goodyear tires to determine if they were suitable for an 8,000-pound load rating on an 8.25-inch rim, correct?
MR. POLLAK: Objection. You can

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answer.
A. No, sir, I would not expect that. Goodyear should be doing their own testing.
Q. Now, you told us that the failure mode of the incident tire following NTSB testing would result in large and unanticipated steering forces, as item No. 4 in your initial report of your opinions. Is that correct?
A. Yes, that's correct.
Q. What are all the bases for that opinion?
A. Well, again, we've covered them ad nauseam, but the tire failure is most similar to delam No. 5. It's identical to delam No. 5, in that we have a tread separation and a blowout. And the steer force variations in delam No. 5 on the NTSB's testing, are very large. And so those are the two facts, there are two bases that I would use for that opinion.
Q. And all of that is based upon your opinion that NTSB testing delam No. 5 was essentially equivalent to what occurred in

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this accident, correct?
A. That's correct, from the standpoint of the tire failure itself.
Q. Because if that incident or this accident occurred was more like delamination No. 2, then it would not be large steering forces involved, correct?
MR. POLLAK: Objection. You can answer.
A. Well, 130, what was that 130-inch pounds versus 300-inch pounds? It is a factor of two. What do you consider large?
Certainly, there would be a, you know, a large steer force to the left associated with this. But, again, in my opinion this tire failure on the accident bus looks like delam 5.
Q. Have you ever driven a bus of this type?
A. No, sir, I have not.
Q. Have you ever tested a bus of this type?
A. No, sir, I have not.
Q. So you would have no knowledge of

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what steering forces are properly handled by an alert driver?
MR. POLLAK: Objection. You can answer.
A. I have no opinion on that.
Q. And, I take it, you would have no opinion on whether an alert driver could have managed the steering forces that were experienced in this accident --
A. I don't.
Q. -- right?
A. That's correct, I don't have any opinion.
Q. You do not have any opinion that MCI was involved in any way in the design of the tread package for the Goodyear G-409 tire, correct?
A. That's correct.
Q. You gave an opinion in your report dated September 10th that the shoulder wear and chamfer wear found on the front steer tires of the bus in question, did not contribute to the failure of the tire, and that your opinion was supported by industry

recommendations promulgated by the Maintenance Council. Do you recall that?

A. I do.

Q. Did you in fact do any investigation to determine whether Greyhound's own rules for the handling of tires on steer axles would have required those tires to be removed from the steer axle and placed in a drive axle or tag axle position?

A. I did not. It's my opinion that those tires would -- my understanding is when a steer tire gets down to 6/32 of an inch, Greyhound wanted it to be moved to a driver or a tag I guess, and there were at least 16,000 miles traveled between the time that it was first, that that wear was noted, to the time of the accident. So these tires would not have looked at the time of the inspection, the way they looked at the time of the accident.

Q. But you did not investigate Greyhound's own rules for its mechanics, tire mechanics, tire personnel, to indicate -- to determine whether Greyhound's rules would have required those tires with the evidence

observed by Mr. Jeffries in July 2006, would require those tires to be moved off the steer axle into another wheel position on the bus?

A. I did not. You know, the extent of my opinion there is that they, you know, those wear conditions I would consider normal. The Tire Maintenance Council considers them normal. They don't consider them a safety issue whatsoever.

Q. And you did not consider what Greyhound considered about it?

A. That's correct.

Q. Do you disagree with Mr. Granite's opinion that the NTSB delamination No. 5 tire is significantly different than the appearance of the tire in question in this accident?

MR. POLLAK: Objection. You can answer.

A. I'm not exactly sure what that opinion of his really means. He says they look different at some end point.

Remember that the video, which is the only thing that I'm aware of that anybody has to look at from the delam 5 testing, is

looking down -- is looking from a video camera looking down onto a tire that's smashed under a wheel. So even in the best of situations, there is no real way to tell that that tire is, you know, alike or different than the tire you have to look at in a laboratory inspection.

Second --

Q. I'm sorry.

A. The second thing is that this tire, the delam 5 tire had a tread separation, a blowout and then the bus went on for some distance before it finally came to a stop on the pavement. So the tire has the opportunity to break down a lot more than the tire at this -- you know, after the delam and blowout, than the tire on the incident bus did. Because basically a very short time after, a couple of seconds after this blowout and tread separation occurs, the front of the bus is off the road on the accident scenario, which means that the tire doesn't get a chance to be abused for nearly as long. So there is no real reason to expect them to be the same.

Q. I'm just, really, I'm trying to focus down. I understand that you think you have reasons why they would look different.

What I'm trying to get at is do you disagree with Mr. Granite's opinions that the tires look significantly different, as compared between the left front of the accident bus and the left front of the tire involved in the NTSB test delamination No. 5?

MR. POLLAK: Objection. You can answer.

A. Again, it is my opinion you can't tell. You can't tell whether they are alike or whether they are different with any degree of reliability.

Q. But you wouldn't --

A. I wouldn't be expected, as I said before, I would not be expected to see that they are different.

MR. DACUS: I pass the witness.

MR. POLLAK: Anybody else?

MS. BOYLE: I have no questions.

MR. KAPLAN: I'm done.

MR. DACUS: Okay.

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MR. POLLAK: That's it.
THE VIDEOGRAPHER: We are now going off the record at approximately 8:33 p.m. This is the end of the deposition, end of tape No. 7.
(Time noted: 8:33 p.m.)

_____
JOHN WILLIAM DAWS

Subscribed and sworn to before me this _____ day of _____, 2010.

_____

C E R T I F I C A T E
STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, ANNELIESE R. TURSI, a Registered Professional Reporter and Notary Public within and for the State of New York, do hereby certify:
That the witness whose deposition is hereinbefore set forth, was duly sworn by me and that such deposition is a true record of the testimony given by the witness.
I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.
IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 2010.

_____
ANNELIESE R. TURSI, RPR

DEPOSITION ERRATA SHEET

Esquire Deposition Assignment No. 313473
Case Caption: Santiago v. Greyhound

DECLARATION UNDER PENALTY OF PERJURY
I declare under penalty of perjury that I have read the entire transcript of my deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes

as if still under oath.

Signed on the_____day of

_____,20___

_____
JOHN WILLIAM DAWS

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JOHN WILLIAM DAWS

September 14, 2010

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